



FINANCIAL STATEMENTS
June 30, 2023 and 2022

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INDEPENDENT AUDITORS' REPORT

Governor Doug Burgum
The Legislative Assembly
Janilyn Murtha, Executive Director
State Investment Board
Teachers' Fund for Retirement Board
North Dakota Retirement and Investment Office

Report on the Audit of the Financial Statements

Opinions

We have audited the accompanying financial statements of the North Dakota Retirement and Investment Office (RIO), a department of the State of North Dakota, which comprise the statement of net position – fiduciary funds as of June 30, 2023 and 2022, and the related statement of changes in net position – fiduciary funds for the years then ended, and the related notes to the financial statements, which collectively comprise RIO's basic financial statements, and the combining and individual fund financial statements as of and for the years ended June 30, 2023 and 2022, as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of RIO as of June 30, 2023 and 2022, and the respective changes in financial position for the years then ended in accordance with accounting principles generally accepted in the United States of America. Also, in our opinion, the combining and individual fund financial statements referred to above present fairly, in all material respects, the respective financial position of each of the individual funds of RIO as of June 30, 2023 and 2022, and the changes in financial position of such funds for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Emphasis of Matter

As discussed in Note 1, the financial statements of RIO are intended to present the financial position and the changes in financial position of only that portion of the State of North Dakota that is attributable to the transactions of RIO. They do not purport to, and do not, present fairly the financial position of the State of North Dakota as of June 30, 2023 and 2022, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Basis for Opinions

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of RIO and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

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In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about RIO's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* will always detect a material misstatement when it exists. 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. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- 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 RIO's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about RIO's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the schedules of changes in NPL and related ratios - ND Teachers' Fund for Retirement and employer contributions - ND Teachers' Fund for Retirement, investment returns - ND Teachers' Fund for Retirement, employer's share of NPL and NOL – ND Public Employees Retirement System and employer contributions – ND Public Employees Retirement System and related notes, as listed in the table of contents, be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context.

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We have applied certain limited procedures to the required supplementary information in accordance with GAAS, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise RIO's basic financial statements and the combining and individual fund financial statements. The schedules of administrative expenses, consultant expenses, investment expenses, and appropriations – budget basis – fiduciary funds (schedules), as listed in the table of contents, are presented for purposes of additional analysis and are not a required part of the basic financial statements. The schedules are the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with GAAS. In our opinion, the schedules are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Audit Standards*, we have also issued our report dated November 3, 2023, on our consideration of RIO's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of RIO's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering RIO's internal control over financial reporting and compliance.



CliftonLarsonAllen LLP

Baltimore, Maryland
November 3, 2023



**INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING
AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL
STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS**

Governor Doug Burgum
The Legislative Assembly
Janyln Murtha, Executive Director
State Investment Board
Teachers' Fund for Retirement Board
North Dakota Retirement and Investment Office

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the North Dakota Retirement and Investment Office (RIO), a department of the State of North Dakota, as of and for year ended June 30, 2023, and the related notes to the financial statements, which collectively comprise RIO's basic financial statements, and the combining and individual fund financial statements, and have issued our report thereon dated November 3, 2023.

Report on Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered RIO's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of RIO's internal control. Accordingly, we do not express an opinion on the effectiveness of RIO's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether RIO's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Governor Doug Burgum
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North Dakota Retirement and Investment Office

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of RIO's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering RIO's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

A handwritten signature in cursive script that reads "CliftonLarsonAllen LLP".

CliftonLarsonAllen LLP

Baltimore, Maryland
November 3, 2023

North Dakota Retirement and Investment Office

Management's Discussion and Analysis

June 30, 2023 and 2022

Our discussion and analysis of the ND Retirement and Investment Office's (RIO) financial performance provides an overview of RIO's financial activities for the fiscal years ended June 30, 2023 and 2022. Please read this in conjunction with the basic financial statements, which follow this discussion.

RIO administers two fiduciary funds, a pension trust fund for the ND Teachers' Fund for Retirement (TFFR) and an investment trust fund for the ND State Investment Board (SIB) consisting of 28 investment clients (noting that TFFR is one of the 28 investment clients) in two investment pools and three individual investment accounts.

Financial Highlights

Total net position increased in fiscal year 2023 from the previous fiscal year in the fiduciary funds by \$1.5 billion (8.3%). Fiscal year 2022 net position had decreased \$1.12 billion (5.8%) from fiscal year 2021. The increase in FY2023 is primarily due to modest investment returns and significant deposits into the Legacy Fund. Approximately 78% of the FY2023 increase is due to the growth of the Legacy Fund. The Legacy Fund was created by a constitutional amendment in 2010. The amendment provides that 30% of oil and gas gross production and oil extraction taxes on oil produced after June 30, 2011, be transferred to the Legacy Fund. Transfers into the Legacy Fund totaled \$858.7 million and \$707.3 million in FY2023 and FY2022, respectively. Meanwhile, net investment income for the Legacy Fund exceeded \$683 million in FY2023 and negative \$875 million in FY2022. The decrease in net position in FY2022 was primarily due to low investment returns due to weak financial markets during the year.

Total additions to the fiduciary funds was a positive \$2.6 billion in FY2023 and a negative \$531 million in FY2022. A large portion of this swing was driven by fluctuations in net investment income. Net investment income was \$1.3 billion in FY2023 following net investment income of negative \$1.6 billion in FY2022. Changes in purchases of units each year are highly dependent on Legacy Fund deposits and thus on oil and gas production. There was an increase in purchases of units in the investment program in FY2023 as the price and production of oil remained strong throughout the year. This followed an increase in purchases of units in FY2022 due to a steep increase in oil prices throughout the year. Total fiduciary fund purchases of units increased \$158.7 million (17.3%) in FY2023 and increased \$283.5 million (44.6%) in FY2022.

Deductions in the fiduciary funds increased in FY2023 by \$503.7 million (86%) and decreased in FY2022 by \$927.4 million (61.3%). The vast majority of the changes in deductions are driven by redemptions of units due to the constitutionally mandated earnings transfers from the Legacy Fund to the State's general fund every two years. The State Constitution requires that all earnings accrued after June 30, 2017, be transferred to the general fund at the end of each biennium. A transfer of \$486.6 million was made in June 2023.

Payments to TFFR members in the form of benefits and refunds increased by \$10.4 million (4.1%) and \$10.7 million (4.5%) in FY2023 and FY2022, respectively. These increases represented a rise in the total number of retirees drawing retirement benefits from the pension fund as well as an increase in the retirement salaries on which the benefits of new retirees are based.

As of June 30, 2023 and 2022, the TFFR pension plan had a Net Pension Liability (NPL) of \$1.40 billion and of \$1.46 billion, and Plan Fiduciary Net Position as a percent of Total Pension Liability (TPL) of 69.3% and 67.5%, respectively.

North Dakota Retirement and Investment Office

Management's Discussion and Analysis

June 30, 2023 and 2022

Overview of the Financial Statements

This report consists of four parts – management's discussion and analysis (this section), the basic financial statements, required supplementary information, and additional supplementary information that presents combining statements for the investment trust funds. The basic financial statements include fund financial statements that focus on individual parts of RIO's activities (fiduciary funds).

The financial statements also include notes that explain some of the information in the financial statements and provide more detailed data. The statements are followed by a section of required supplementary information that further explains and supports the information in the financial statements. In addition to these required elements, we have included additional supplementary information, including combining statements that provide details about our investment trust funds, each of which are added together and presented in single columns in the basic financial statements.

Fund Financial Statements

The fund financial statements provide detailed information about RIO's activities. Funds are accounting devices that RIO uses to keep track of specific sources of funding and spending for particular purposes.

RIO uses fiduciary funds as RIO is the trustee, or fiduciary, for TFFR (a pension plan) and SIB (investment trust funds). RIO is responsible for ensuring that the assets reported in these funds are used for their intended purposes. All of RIO's fiduciary activities are reported in a statement of net position and a statement of changes in net position.

Financial Analysis

RIO's fiduciary fund total assets as of June 30, 2023 and 2022, were \$19.69 billion and \$18.22 billion, respectively, and were comprised mainly of investments. Total assets increased by \$1.48 billion (8.1%) in fiscal year 2023 primarily due to on-going deposits to the Legacy Fund and Budget Stabilization Fund as well as stronger financial markets in FY2023. The decrease of \$1.94 billion (9.6%) in fiscal year 2022 was primarily due to the required distribution from the legacy fund in July of 2021 coupled with weak financial markets.

Total liabilities as of June 30, 2023 and 2022, were \$135.98 million and \$157.5 million. Both year-end liabilities were comprised mainly of the securities lending collateral payable.

RIO's fiduciary fund total net position was \$19.6 billion and \$18.1 billion at the close of fiscal years 2023 and 2022, respectively.

**North Dakota Retirement and Investment Office
Net Position – Fiduciary Funds
(In Millions)**

	<u>2023</u>	<u>2022</u>	<u>Total % Change</u>
Assets			
Investments	\$ 19,449.9	\$ 17,948.5	8.4%
Securities Lending Collateral	119.0	147.7	-19.4%
Receivables	94.1	95.3	-1.3%
Cash & Other	27.4	24.4	4.6%
Total Assets	<u>19,690.4</u>	<u>18,215.9</u>	8.1%
Deferred Outflows of Resources			
Deferred outflows related to pensions	<u>3.1</u>	<u>1.8</u>	71.2%
Liabilities			
Obligations under Securities Lending	119.0	147.7	-19.4%
Accounts Payable & Accrued Expenses	17.0	9.8	72.5%
Total Liabilities	<u>136.0</u>	<u>157.5</u>	-13.7%
Deferred Inflows of Resources			
Deferred inflows related to pensions	<u>1.8</u>	<u>3.0</u>	-40.3%
Total Net Position	<u>\$ 19,555.7</u>	<u>\$ 18,057.2</u>	8.3%
	<u>2022</u>	<u>2021</u>	<u>Total % Change</u>
Assets			
Investments	\$ 17,948.5	\$ 19,948.0	23.0%
Sec Lending Collateral	147.7	88.9	51.2%
Receivables	95.3	89.4	4.7%
Cash & Other	24.4	26.1	21.9%
Total Assets	<u>18,215.9</u>	<u>20,152.4</u>	23.0%
Deferred Outflows of Resources			
Deferred outflows related to pensions	<u>1.8</u>	<u>2.7</u>	201.6%
Liabilities			
Obligations under Securities Lending	147.7	88.9	51.2%
Accounts Payable & Accrued Expenses	9.8	891.6	6344.4%
Total Liabilities	<u>157.5</u>	<u>980.5</u>	1250.1%
Deferred Inflows of Resources			
Deferred inflows related to pensions	<u>3.0</u>	<u>0.8</u>	-18.2%
Total Net Position	<u>\$ 18,057.2</u>	<u>\$ 19,173.8</u>	17.5%

**North Dakota Retirement and Investment Office
Changes in Net Position – Fiduciary Funds
(In Millions)**

	<u>2023</u>	<u>2022</u>	<u>Total % Change</u>
Additions			
Contributions	\$ 197.7	\$ 194.8	1.5%
Net Investment Income (Loss)	1,311.3	(1,645.7)	179.7%
Net Securities Lending Income	1.0	0.8	34.5%
Purchase of Units	1,077.4	918.7	17.3%
Total Additions	<u>2,587.4</u>	<u>(531.4)</u>	586.9%
Deductions			
Payments to TFFR members	262.3	251.8	4.1%
Administrative Expenses	6.0	4.6	30.1%
Redemption of Units	820.6	328.7	149.6%
Total Deductions	<u>1,088.9</u>	<u>585.1</u>	86.1%
Total Change in Net Position	<u>\$ 1,498.5</u>	<u>\$ (1,116.5)</u>	234.2%

	<u>2022</u>	<u>2021</u>	<u>Total % Change</u>
Additions			
Contributions	\$ 194.8	\$ 191.5	1.7%
Net Investment Income	(1,645.7)	3,545.0	-146.4%
Net Securities Lending Income	0.8	1.0	-23.2%
Purchase of Units	918.7	635.2	44.6%
Total Additions	<u>(531.4)</u>	<u>4,372.7</u>	-112.2%
Deductions			
Payments to TFFR members	251.8	241.1	4.4%
Administrative Expenses	4.6	4.8	-5.4%
Redemption of Units	328.7	1,266.6	-74.0%
Total Deductions	<u>585.1</u>	<u>1,512.5</u>	-61.3%
Total Change in Net Position	<u>\$ (1,116.5)</u>	<u>\$ 2,860.2</u>	-139.0%

Statement of Changes in Net Position – Additions

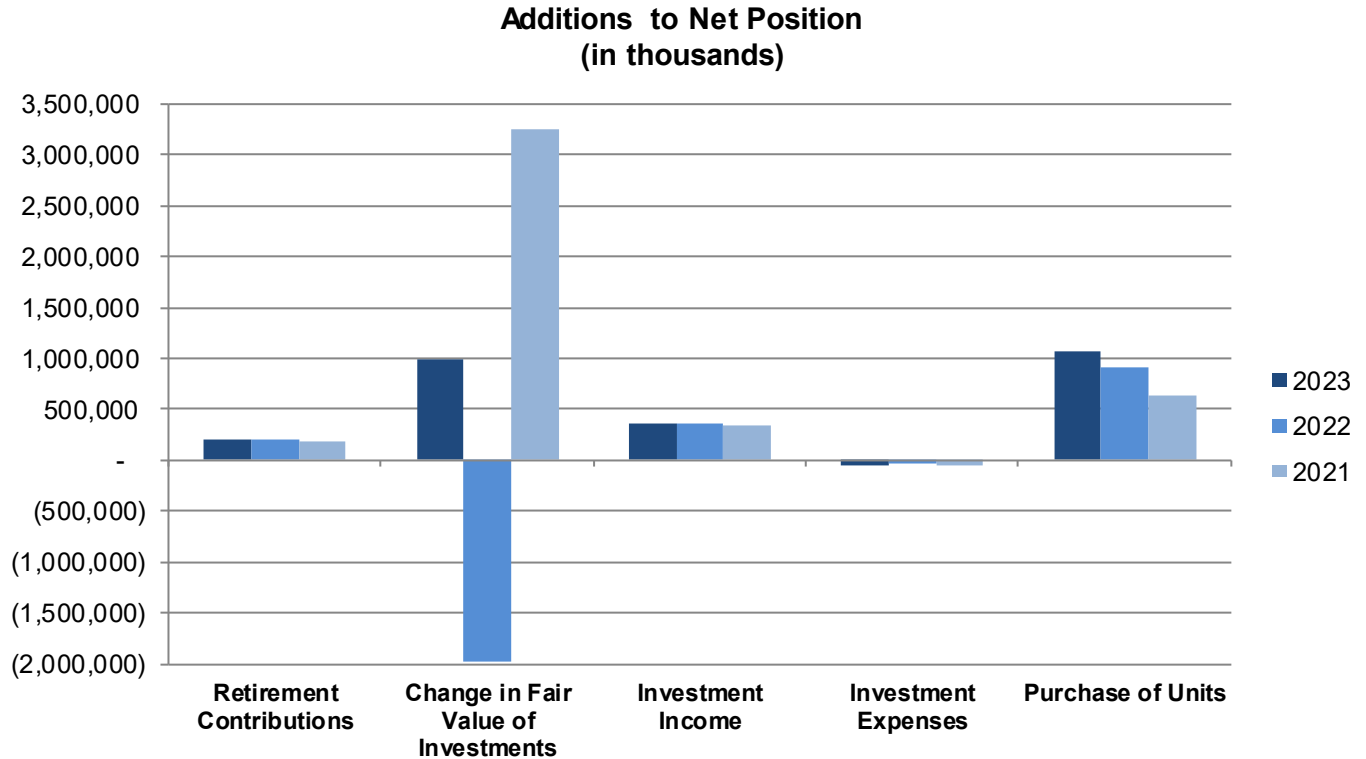
Contributions collected by the pension trust fund increased by \$2.9 million (1.5%) in FY2023 and \$3.3 million (1.74%) in FY2022 due to both an increase in the number of active members contributing to the fund and an increase in the average salary of active members. Net investment income (including net securities lending income and net of investment expenses) increased by \$2.96 billion (179.7%) in FY2023 and decreased by \$5.2 billion (146.4%) in FY2022. Financial markets in FY2023 recovered

North Dakota Retirement and Investment Office

Management’s Discussion and Analysis

June 30, 2023 and 2022

substantially from the significant pullback realized in FY2022. Deposits of funds into the investment trust fund (purchase of units) increased by \$158.7 million in FY2023 and \$283.5 million in FY2022, mainly due to changes in amounts available for deposits to the Legacy Fund and Budget Stabilization Fund.



Statement of Changes in Net Position – Deductions

Benefits paid to TFFR plan participants, including partial lump-sum distributions, increased by \$9.7 million (3.9%) and \$9.5 million (4.0%) in FY2023 and FY2022, respectively. The increases are due to an increase in the total number of retirees in the plan as well as an increased retirement salary on which the benefits are based. Refunds increased by \$778 thousand (10.9%) after increasing by \$1.2 million (20.6%) in FY2022.

Administrative expenses increased by \$1.4 million in FY2023 after decreasing by \$262,000 in FY2022. The FY2023 change is due to a few different factors. The first factor is an increase due to the continuation of the Pension Administration System (PAS) modernization project that began in FY2020. The total budget for this multi-year PAS project is \$9.3 million, with approximately \$3.4 million expended through June 30, 2023. This project will continue through FY2024 and FY2025. The second factor offset was an increase in the agency’s portion of the pension expense from the ND Public Employees Retirement System pension plan for the State of ND. This change was caused by a decrease in the ND Public Employees Retirement System discount rate. Finally, an additional 6 full time employees were granted to RIO during a special legislative session which has increased the salary line for the agency.

The decrease in FY2022 was due to two different factors. The first factor was an increase due to the continuation of the Pension Administration System (PAS) modernization project as previously

North Dakota Retirement and Investment Office

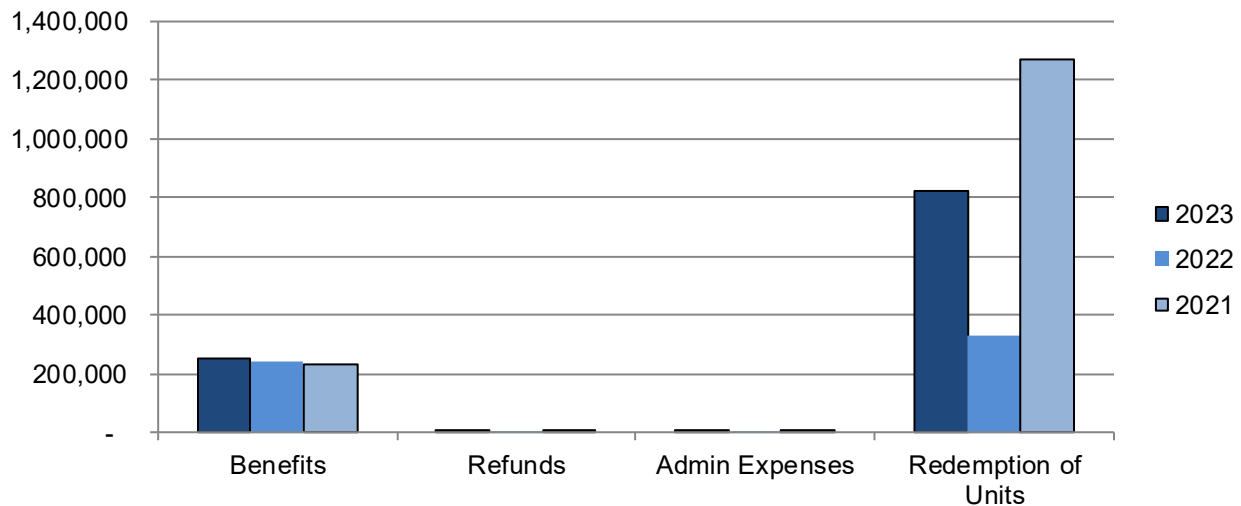
Management's Discussion and Analysis

June 30, 2023 and 2022

discussed. The second factor which offset the increase was a large decrease in the agencies portion of the pension expense from the ND Public Employees Retirement System Pension plan for the State of ND.

The redemption of units in the investment trust funds increased by \$491.9 million after decreasing by \$937.8 million in FY2022. Biennial swings will continue in this line item due to the biennial earnings transfers from the Legacy Fund required under the State Constitution.

Deductions from Net Position (in thousands)



Conclusion

Inflation continues to moderate from its peak of June 2022 as shelter inflation, a significant driver, is gradually easing and as non-shelter services, which has been a persistent driver of overall inflation, has just begun to moderate. The overall economy has performed exceedingly well this past year with the third quarter 2023 GDP growing at a 4.9% rate that is expected to slow. Interest rates are much higher over the past year impacting several other factors such as anticipated slower government spending, slower trade from a strong dollar, slower home building, slower business investment, and less consumer spending. The equity markets have been on pause and the fixed income markets have adjusted to higher yields. The Fed has also been on pause with regards to interest rate increases, waiting for more evidence that inflation will continue to moderate. Much depends on the moderation of inflation, continued economic growth and importantly, any event risks such as the war in Ukraine or the Mid-East. Although the markets continue to be challenging throughout 2023, the lower valuations of fixed income and moderate economic growth potentially driving earnings and equity prices provides a foundation for higher returns in the future.

For the fiscal year ended June 30, 2023, the pension investment pool (which includes the TFFR pension plan), the Legacy Fund and the insurance investment pool generated net time weighted investment returns of 7.76%, 8.19% and 3.01%, respectively, with both the legacy and insurance pool outperforming their corresponding policy benchmarks. Investment returns for global equities exceeded policy benchmarks in fiscal year 2023 largely due to factors mentioned above. Public equity and fixed income were both up as opposed to the prior year. Global public equities for pension, insurance, and legacy were up 15.49%, 16.72%, and 16.51%, respectively. Total fixed income was also slightly up for

North Dakota Retirement and Investment Office

Management's Discussion and Analysis

June 30, 2023 and 2022

pension, insurance, and legacy at 1.56%, 0.30%, and 1.32%, respectively. Alternatively, real asset performance was down for FY2023. The pension pool's real asset allocation was down (5.01%), while the Legacy Fund and insurance pool's real asset portfolios down (1.24%) and (2.48%), respectively. Private equity in the pension pool returned 9.25% for the fiscal year.

For the fiscal year ended June 30, 2022, the pension investment pool (which includes the TFFR pension plan), the Legacy Fund, and the insurance investment pool experienced net time weighted investment returns of (6.51%), (10.12%), and (8.18%), respectively. Investment returns were below long-term expectations in FY2022 largely due to many uncertain conditions at the end of FY2022. The inflation outlook remained very uncertain from a tight US labor market, a war in Ukraine, and Chinese supply chain concerns from a strict COVID policy. Public equity and fixed income were down significantly as opposed to prior years. Global public equities for pension, insurance, and legacy were down (12.59%), (15.71%), and (16.32%), respectively. Total fixed income was also down for pension, insurance, and legacy at (8.23%), (11.31%), and (9.8%), respectively. Alternatively, real asset and private equity performance was positive for FY2022. The pension pool's real asset allocation was up 18.52%, while the Legacy Fund and insurance pool's real asset portfolios were up 9.29% and 5.92%, respectively, driven by strong returns from infrastructure assets. Private equity in the pension pool returned 11.73% for the fiscal year, largely attributable to their ability to handle market news and smooth returns for investors.

The State Investment Board will continue to evaluate the ever-evolving markets and research investment strategies to prudently manage its investment portfolios.

TFFR's funding objective is to meet long-term pension benefit obligations through contributions and investment income. To address TFFR's funding shortfall, the ND State Legislature took action in 2011 and approved legislation to increase contributions (4% member and 4% employer) and modify certain benefits for non-grandfathered members. Increased contribution rates will be in effect until TFFR reaches 100% funding on an actuarial basis. This comprehensive funding recovery plan, along with solid investment performance in the future, is expected to improve TFFR's funding level over the long term. However, the Board is continuing to closely assess plan risks and monitor funding progress.

TFFR procured a new actuary effective July 1, 2023. The valuation report was provided by Segal for the period ending June 30, 2022 and will be provided by GRS for the period ending June 30, 2023. As reported by the valuation report provided by GRS, TFFR's funding level increased from 69.93% to 71.21% on an actuarial basis from July 1, 2022 to July 1, 2023. Based on the fair value of assets rather than the actuarial value of assets, the funded ratio increased to 69.34% compared to 67.5% last year. The Plan has a net investment loss of \$85.6 million, down from \$109.1 million from the previous year that has not yet been recognized in the actuarial value of assets due to the five-year smoothing. This unrecognized asset loss is primarily due to the investment losses during FY 2022, 2020, and 2019, largely offset by the investment gain during FY 2021. GRS has also observed that as the net asset losses currently being deferred are phased into the actuarial value of assets over the next four years this will put adverse pressure on the results in coming years. GRS also noted that the plan experience an actuarial asset loss of \$30.7 million during fiscal year ending 2023 and this loss was due to the actuarial value of assets earning a return less than the assumed 7.25%.

Protecting the long term solvency of the pension plan is the TFFR Board's fiduciary responsibility. The Board will continue to proactively address TFFR funding issues so the plan will be financially strong and sustainable for past, present, and future ND educators. Fund actuary GRS has opined 2043, as such,

North Dakota Retirement and Investment Office

Management's Discussion and Analysis

June 30, 2023 and 2022

the current Member and Employer contribution rates are expected to be sufficient to meet the Board financing objectives.

Contacting RIO Financial Management

This financial report is designed to provide our Boards, our membership, our clients and the general public with a general overview of RIO's finances and to demonstrate RIO's accountability for the money we receive. If you have any questions about this report or need additional information, contact the North Dakota Retirement and Investment Office, PO Box 7100, Bismarck, ND 58507-7100.

North Dakota Retirement and Investment Office
Statement of Net Position – Fiduciary Funds
June 30, 2023 and 2022

	Pension Trust		Investment Trust		Total	
	2023	2022	2023	2022	2023	2022
Assets:						
Investments, at fair value						
Global equities	\$ 1,765,727,972	\$ 1,584,149,652	\$ 7,634,156,673	\$ 6,377,122,880	\$ 9,399,884,645	\$ 7,961,272,532
Global fixed income	785,396,084	787,437,048	6,118,263,992	5,971,871,760	6,903,660,076	6,759,308,808
Global real assets	550,692,368	557,108,366	2,492,901,108	2,524,055,925	3,043,593,476	3,081,164,291
Cash equivalents	11,465,710	32,514,380	91,320,247	114,203,723	102,785,957	146,718,103
Total investments	<u>3,113,282,134</u>	<u>2,961,209,446</u>	<u>16,336,642,020</u>	<u>14,987,254,288</u>	<u>19,449,924,154</u>	<u>17,948,463,734</u>
Invested securities lending collateral	24,099,094	20,080,497	94,904,315	127,624,822	119,003,409	147,705,319
Receivables:						
Investment income	10,215,544	11,279,712	54,917,457	52,010,441	65,133,001	63,290,153
Contributions	28,887,364	31,982,043	-	-	28,887,364	31,982,043
Miscellaneous	10,502	12,783	37,003	26,616	47,505	39,399
Total receivables	<u>39,113,410</u>	<u>43,274,538</u>	<u>54,954,460</u>	<u>52,037,057</u>	<u>94,067,870</u>	<u>95,311,595</u>
Due from other state agency	889	824	641	457	1,530	1,281
Cash and cash equivalents	23,963,066	23,308,382	866,980	426,172	24,830,046	23,734,554
Equipment (net of depreciation)	-	-	-	-	-	-
Software (not in production)	2,580,327	680,999	-	-	2,580,327	680,999
Total assets	<u>3,203,038,920</u>	<u>3,048,554,686</u>	<u>16,487,368,416</u>	<u>15,167,342,796</u>	<u>19,690,407,336</u>	<u>18,215,897,482</u>
Deferred outflows of resources						
Related to pensions	<u>1,715,386</u>	<u>1,113,188</u>	<u>1,433,652</u>	<u>726,471</u>	<u>3,149,038</u>	<u>1,839,659</u>
Liabilities:						
Accounts payable	624,924	840,496	173,010	245,515	797,934	1,086,011
Investment expenses payable	1,702,692	1,318,222	8,735,757	4,862,595	10,438,449	6,180,817
Securities lending collateral	24,099,094	20,080,497	94,904,315	127,624,822	119,003,409	147,705,319
Accrued expenses	3,432,474	1,981,945	2,220,534	524,250	5,653,008	2,506,195
Miscellaneous payable	-	-	42,921	32,737	42,921	32,737
Due to other state funds	-	-	-	-	-	-
Due to other state agencies	39,647	28,184	6,177	6,698	45,824	34,882
Total liabilities	<u>29,898,831</u>	<u>24,249,344</u>	<u>106,082,714</u>	<u>133,296,617</u>	<u>135,981,545</u>	<u>157,545,961</u>
Deferred inflows of resources						
Related to pensions	<u>947,020</u>	<u>1,498,287</u>	<u>822,733</u>	<u>1,465,298</u>	<u>1,769,753</u>	<u>2,963,585</u>
Fiduciary net position:						
Restricted for pensions	3,173,908,455	3,023,920,243	-	-	3,173,908,455	3,023,920,243
Held in trust for investment pool participants:						
Pension pool	-	-	4,167,815,538	3,945,900,809	4,167,815,538	3,945,900,809
Insurance pool	-	-	2,966,057,036	2,902,957,219	2,966,057,036	2,902,957,219
Held in trust for individual investment accounts	-	-	9,248,024,047	8,184,449,324	9,248,024,047	8,184,449,324
Total fiduciary net position	<u>\$ 3,173,908,455</u>	<u>\$ 3,023,920,243</u>	<u>\$ 16,381,896,621</u>	<u>\$ 15,033,307,352</u>	<u>\$ 19,555,805,076</u>	<u>\$ 18,057,227,595</u>
Each participant unit is valued at \$1.00						
Participant units outstanding			<u>16,381,896,621</u>	<u>15,033,307,352</u>		

The accompanying notes are an integral part of the financial statements.

North Dakota Retirement and Investment Office
Statement of Changes in Net Position – Fiduciary Funds
Years Ending June 30, 2023 and 2022

	Pension Trust		Investment Trust		Total	
	2023	2022	2023	2022	2023	2022
Additions:						
Contributions:						
Employer contributions	\$ 102,307,888	\$ 100,331,347	\$ -	\$ -	\$ 102,307,888	\$ 100,331,347
Member contributions	94,283,739	92,462,223	-	-	94,283,739	92,462,223
Purchased service credit	1,108,690	2,017,055	-	-	1,108,690	2,017,055
Interest, penalties and other	(10,492)	25,166	-	-	(10,492)	25,166
Total contributions	<u>197,689,825</u>	<u>194,835,791</u>	<u>-</u>	<u>-</u>	<u>197,689,825</u>	<u>194,835,791</u>
Investment income:						
Net change in fair value of investments						
value of investments	175,293,526	(248,369,374)	817,632,974	(1,722,081,517)	992,926,500	(1,970,450,891)
Interest, dividends and other income	49,487,353	56,305,952	311,158,011	307,545,995	360,645,364	363,851,947
	<u>224,780,879</u>	<u>(192,063,422)</u>	<u>1,128,790,985</u>	<u>(1,414,535,522)</u>	<u>1,353,571,864</u>	<u>(1,606,598,944)</u>
Less investment expenses	7,468,043	6,924,716	34,820,522	32,154,613	42,288,565	39,079,329
Net investment income	<u>217,312,836</u>	<u>(198,988,138)</u>	<u>1,093,970,463</u>	<u>(1,446,690,135)</u>	<u>1,311,283,299</u>	<u>(1,645,678,273)</u>
Securities lending activity:						
Securities lending income	198,283	134,425	1,070,688	806,990	1,268,971	941,415
Less securities lending expenses	(39,632)	(26,870)	(216,321)	(161,310)	(255,953)	(188,180)
Net securities lending income	<u>158,651</u>	<u>107,555</u>	<u>854,367</u>	<u>645,680</u>	<u>1,013,018</u>	<u>753,235</u>
Purchase of units (\$1 per unit)	-	-	1,077,407,627	918,708,674	1,077,407,627	918,708,674
Total additions	<u>415,161,312</u>	<u>(4,044,792)</u>	<u>2,172,232,457</u>	<u>(527,335,781)</u>	<u>2,587,393,769</u>	<u>(531,380,573)</u>
Deductions:						
Benefits paid to participants	253,704,476	244,069,172	-	-	253,704,476	244,069,172
Partial lump-sum distributions	657,452	635,924	-	-	657,452	635,924
Refunds	7,920,125	7,142,359	-	-	7,920,125	7,142,359
Administrative expenses	2,891,047	2,592,340	3,061,781	1,983,025	5,952,828	4,575,365
Redemption of units (\$1 per unit)	-	-	820,581,407	328,730,469	820,581,407	328,730,469
Total deductions	<u>265,173,100</u>	<u>254,439,795</u>	<u>823,643,188</u>	<u>330,713,494</u>	<u>1,088,816,288</u>	<u>585,153,289</u>
Change in fiduciary net position	149,988,212	(258,484,587)	1,348,589,269	(858,049,275)	1,498,577,481	(1,116,533,862)
Fiduciary net position:						
Beginning of year	\$ 3,023,920,243	\$ 3,282,404,830	\$ 15,033,307,352	\$ 15,891,356,627	\$ 18,057,227,595	\$ 19,173,761,457
End of Year	<u>\$ 3,173,908,455</u>	<u>\$ 3,023,920,243</u>	<u>\$ 16,381,896,621</u>	<u>\$ 15,033,307,352</u>	<u>\$ 19,555,805,076</u>	<u>\$ 18,057,227,595</u>

The accompanying notes are an integral part of the financial statements.

Note 1 - Summary of Significant Accounting Policies

RIO is an agency of the State of North Dakota operating through the legislative authority of North Dakota Century Code (NDCC) Chapter 54-52.5 and is considered part of the State of North Dakota financial reporting entity and included in the State of North Dakota's Annual Comprehensive Financial Report.

For financial reporting purposes, RIO has included all funds, and has considered all potential component units for which RIO is financially accountable, and other organizations for which the nature and significance of their relationship with RIO are such that exclusion would cause RIO's financial statements to be misleading or incomplete. The Governmental Accounting Standards Board has set forth criteria to be considered in determining financial accountability. These criteria include appointing a voting majority of an organization's governing body and (1) the ability of RIO to impose its will on that organization or (2) the potential for the organization to provide specific financial benefits to or impose specific financial burdens on RIO.

Based upon these criteria, there are no component units to be included within RIO as a reporting entity and RIO is part of the State of North Dakota as a reporting entity.

Fund Financial Statement

All activities of RIO are accounted for within the pension and investment trust funds and are shown, by fund, in the fiduciary fund financial statements.

Measurement Focus, Basis of Accounting and Financial Statement Presentation

The financial statements of RIO are reported using the economic resources measurement focus and the accrual basis of accounting.

This measurement focus includes all assets and liabilities associated with the operations of the fiduciary funds on the statements of net position. Additions are recorded when earned and deductions are recorded when a liability is incurred, regardless of the timing of related cash flows.

Fiduciary Fund

A pension trust fund and investment trust funds have been established to account for the assets held by RIO in a trustee capacity for TFFR and as an agent for other governmental units or funds which have placed certain investment assets under the management of the SIB. The SIB manages two external investment pools and three individual investment accounts. The two external investment pools consist of a pension pool and insurance pool. The SIB manages the investments of the North Dakota Public Employees Retirement System, Bismarck City Employees and Police, City of Grand Forks Employees and City of Grand Forks Park District Employees pension plans in the pension pool. The investments of Workforce Safety & Insurance, State Fire and Tornado, State Bonding, Petroleum Tank Release Compensation Fund, Insurance Regulatory Trust, North Dakota Association of Counties Fund, Risk Management, Risk Management Workers Comp, PERS Group Insurance, City of Bismarck Deferred Sick Leave, City of Fargo FargoDome Permanent Fund, Cultural Endowment Fund, ND State Board of Medicine, Lewis and Clark Interpretive Center Endowment Fund, Attorney General Settlement Fund, Veterans' Cemetery Trust Fund, ND University System Capital Building Fund, Budget Stabilization Fund and Arts Across the Prairie Maintenance Endowment fund are managed in the insurance pool. The Legacy Fund, Job Service of North Dakota, and PERS Retiree Health investments are managed by the SIB in individual investment accounts.

North Dakota Retirement and Investment Office

Notes to the Financial Statements

June 30, 2023 and 2022

RIO has no statutory authority over, nor responsibility for, these investment trust funds other than the investment responsibility provided for by statute or through contracts with the individual agencies. The funds that are required to participate according to statute are: Public Employees Retirement System, Workforce Safety & Insurance, State Fire and Tornado, State Bonding, Petroleum Tank Release Compensation Fund, Insurance Regulatory Trust, Risk Management, Risk Management Workers Comp, Cultural Endowment Fund, Legacy Fund and Budget Stabilization Fund.

RIO follows the pronouncements of the Governmental Accounting Standards Board (GASB), which is the nationally accepted standard setting body for establishing accounting principles generally accepted in the United States of America for governmental entities.

Pension and Investment Trust Funds are accounted for using the accrual basis of accounting. Member contributions are recognized in the period in which they are due. Employer contributions are recognized when due and the employer has made a formal commitment to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with the NDCC.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

RIO utilizes various investment instruments. Investment securities, in general, are exposed to various risks, such as interest rate, credit, and overall market volatility. Due to the level of risk associated with certain investment securities, it is reasonably possible that changes in the values of investment securities will occur in the near term and that such change could materially affect the amounts reported in the statements of net position.

Budgetary Process

RIO operates through a biennial appropriation, which represents appropriations recommended by the Governor and presented to the General Assembly (the Assembly) at the beginning of each legislative session. The Assembly enacts RIO's budget through passage of a specific appropriation bill. The State of North Dakota's budget is prepared principally on a modified accrual basis. The Governor has line-item veto power over all legislation, subject to legislative override.

Once passed and signed, the appropriation bill becomes RIO's financial plan for the next two years. Changes to the appropriation are limited to Emergency Commission authorization, initiative, or referendum action. The Emergency Commission can authorize receipt of federal or other moneys not appropriated by the Assembly if the Assembly did not indicate intent to reject the money. The Emergency Commission may authorize pass-through federal funds from one state agency to another. The Emergency Commission may authorize the transfer of expenditure authority between appropriated line items; however, RIO has specific authority as a special fund to transfer between the contingency line item and other line items. Unexpended appropriations lapse at the end of each biennium, except certain capital expenditures covered under NDCC section 54-44.1-11.

RIO does not use encumbrance accounting. The legal level of budgetary control is at the agency, appropriation and expenditure line-item level. RIO does not formally budget revenues and does not budget by fund. The statement of revenues, expenditures and changes in fund balances - budget and actual is not prepared because revenues are not budgeted.

North Dakota Retirement and Investment Office

Notes to the Financial Statements

June 30, 2023 and 2022

Capital Assets and Depreciation

Capital asset expenditures greater than \$5,000 are capitalized at cost in accordance with Section 54-27-21 of the NDCC. Depreciation is computed using the straight-line method over the estimated useful lives of the assets. The estimated useful lives are as follows:

	<u>Years</u>
Office equipment	5
Furniture and fixtures	5

Investments

NDCC Section 21-10-07 states that the SIB shall apply the prudent investor rule when investing funds under its supervision. The prudent investor rule means that in making investments, the fiduciaries shall exercise the judgment and care, under the circumstances then prevailing, that an institutional investor of ordinary prudence, discretion and intelligence exercises in the management of large investments entrusted to it, not in regard to speculation, but in regard to the permanent disposition of funds, considering probable safety of capital as well as probable income.

The pension fund belonging to TFFR and investment trust funds attributable to the City of Bismarck Employee Pension Plan, the City of Bismarck Police Pension Plan, Job Service of North Dakota, City of Grand Forks Employee Pension Plan, City of Grand Forks Park District Pension Plan and the Public Employees Retirement System (PERS) must be invested exclusively for the benefit of their members. All investments are made in accordance with the respective fund's long-term investment objectives and performance goals.

Pooled Investments

Many funds whose investments are under the supervision of the SIB participate in pooled investments. The agencies transfer money into the investment pools and receive an appropriate percentage ownership of the pooled portfolio based upon fair value. All activities of the investment pools are allocated to the agencies based upon their respective ownership percentages. Each participant unit is valued at \$1.00 per unit.

Investment Valuation and Income Recognition

Investments are reported at fair value. Quoted market prices, when available, have been used to value investments. The fair values for securities that have no quoted market price represent estimated fair value. International securities are valued based upon quoted foreign market prices and translated into US dollars at the exchange rate in effect at June 30. In general, corporate debt securities have been valued at quoted market prices or, if not available, values are based on yields currently available on comparable securities of issuers with similar credit ratings. Mortgages have been valued on the basis of their future principal and interest payments discounted at prevailing interest rates for similar instruments. The fair value of real estate investments, including timberland, is based on appraisals plus fiscal year-to-date capital transactions. Publicly traded alternative investments are valued based on quoted market prices. When not readily available, alternative investment securities are valued using current estimates of fair value from the investment manager. Such valuations consider variables such as financial performance of the issuer, comparison of comparable companies' earnings multiples, cash flow analysis, recent sales prices of investments, withdrawal restrictions, and other pertinent information. Because of the inherent uncertainty of the valuation for these other alternative investments, the estimated fair value may differ from the values that would have been used had a ready market existed.

North Dakota Retirement and Investment Office

Notes to the Financial Statements

June 30, 2023 and 2022

The net change in fair value of investments consists of the realized gains or losses and the unrealized increase or decrease in fair value of investments during the year. Realized gains and losses on sales of investments are computed based on the difference between the sales price and the original cost of the investment sold. Realized gains and losses on investments that had been held in more than one fiscal year and sold in the current fiscal year were included as a change in the fair value of investments reported in the prior year(s) and the current year.

Unrealized gains and losses are computed based on changes in the fair value of investments between years. Security transactions are accounted for on a trade date basis. Interest income is recognized when earned. Dividend income is recorded on the ex-dividend date.

Pensions and Other Postemployment Benefits (OPEB)

For purposes of measuring the net pension and OPEB liabilities, deferred outflows of resources and deferred inflows of resources related to pensions and OPEB, and pension and OPEB expenses, information about the fiduciary net position of the ND Public Employees Retirement System (NDPERS) defined benefit pension and OPEB plans, and additions to/deductions from NDPERS' fiduciary net position have been determined on the same basis as they are reported by NDPERS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Note 2 - Cash and Cash Equivalents

Custodial Credit Risk

State law generally requires that all state funds be deposited in the Bank of North Dakota. NDCC 21-04-01 provides that public funds belonging to or in the custody of the state shall be deposited in the Bank of North Dakota. Also, NDCC 6-09-07 states, “[a]ll state funds ... must be deposited in the Bank of North Dakota” or must be deposited in accordance with constitutional and statutory provisions.

Pension Trust Fund

Deposits held by the Pension Trust Fund at June 30, 2023 were deposited in the Bank of North Dakota. At June 30, 2023 and 2022, the carrying amount of TFFR's deposits was \$23,963,066 and \$23,308,382 respectively, and the bank balance was \$23,995,175 and \$23,347,141, respectively. The difference results from checks outstanding or deposits not yet processed by the bank. These deposits are exposed to custodial credit risk as uninsured and uncollateralized. However, these deposits at the Bank of North Dakota are guaranteed by the State of North Dakota through NDCC Section 6-09-10.

Investment Trust Funds

Certificates of deposit, an insurance pool cash account, a pension pool cash account and a Legacy Fund cash account are recorded as investments and have a cost and carrying value of \$203,316,871 and \$239,796,384 at June 30, 2023 and 2022, respectively. In addition, these funds carry cash and cash equivalents totaling \$866,982 and \$426,172 at June 30, 2023 and 2022, respectively. These deposits are exposed to custodial credit risk as uninsured and uncollateralized. However, these deposits held at the Bank of North Dakota are guaranteed by the State of North Dakota through NDCC Section 6-09-10.

North Dakota Retirement and Investment Office

Notes to the Financial Statements

June 30, 2023 and 2022

Note 3 - Investments

The investment policy of the SIB is governed by NDCC 21-10. The SIB shall apply the prudent investor rule in investing for funds under its supervision. The “prudent investor rule” means that in making investments, the fiduciaries shall exercise the judgment and care, under the circumstances then prevailing, that an institutional investor of ordinary prudence, discretion, and intelligence exercises in the management of large investments entrusted to it, not in regard to speculation but in regard to the permanent disposition of funds, considering probable safety of capital as well as probable income. The retirement funds belonging to the teachers’ fund for retirement and the public employees’ retirement system must be invested exclusively for the benefit of their members and in accordance with the respective funds’ investment goals and objectives.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates of debt securities will adversely affect the fair value of an investment. The price of a debt security typically moves in the opposite direction of the change in interest rates. The SIB does not have a formal investment policy that limits investment maturities as a means of managing its exposure to potential fair value losses arising from future changes in interest rates.

At June 30, 2023 and 2022, the following tables show the investments by investment type and maturity (expressed in thousands).

2023	Total Fair Value	Less than 1 Year	1-6 Years	6-10 Years	More than 10 Years
Asset Backed Securities	\$ 439,098	\$ 3,843	\$ 127,372	\$ 178,924	\$ 128,959
Collateralized Bonds	1,652	-	-	1,652	-
Commercial Mortgage-Backed	322,945	5	3,839	9,147	309,954
Commercial Paper	106,717	106,717	-	-	-
Corporate Bonds	1,920,369	83,902	1,085,624	350,601	400,242
Corporate Convertible Bonds	11,596	-	7,058	81	4,457
Government Agencies	32,016	6,347	17,763	5,737	2,169
Government Bonds	774,763	6,537	287,578	73,578	407,070
Gov't Mortgage Backed	1,264,892	91	6,455	14,156	1,244,190
Gov't-issued CMB	18,255	55	3,967	9,243	4,990
Index Linked Government Bonds	635,558	8,677	358,588	123,678	144,615
Municipal/Provincial Bonds	22,222	2,171	3,766	3,125	13,160
Non-Government Backed CMOs	106,134	806	4,986	6,040	94,302
Repurchase Agreements	(786)	(786)	-	-	-
Short Term Bills and Notes	14,388	14,388	-	-	-
Sukuk	2,506	-	1,282	1,224	-
Funds/Pooled Investments	1,432,690	-	685,151	596,419	151,120
Total Debt Securities	\$ 7,105,015	\$ 232,753	\$ 2,593,429	\$ 1,373,605	\$ 2,905,228

North Dakota Retirement and Investment Office

Notes to the Financial Statements

June 30, 2023 and 2022

2022	Total Fair Value	One Year or Less	1-6 Years	6-10 Years	More than 10 Years
Asset Backed Securities	\$ 469,733	\$ 183	\$ 119,979	\$ 189,285	\$ 160,286
Bank Loans	15,007	17	13,470	1,520	-
Collateralized Bonds	2,446	-	-	2,446	-
Commercial Mortgage-Backed	362,729	176	5,125	12,587	344,841
Commercial Paper	27,977	27,977	-	-	-
Corporate Bonds	2,076,494	62,357	1,124,124	445,072	444,941
Corporate Convertible Bonds	19,220	-	9,084	-	10,136
Government Agencies	35,569	2,379	23,136	6,197	3,857
Government Bonds	735,584	3,232	309,087	70,159	353,106
Gov't Mortgage Backed	688,660	646	6,414	8,504	673,096
Gov't-issued CMB	13,960	1	3,398	9,465	1,096
Index Linked Government Bonds	650,572	25,351	358,250	142,972	123,999
Municipal/Provincial Bonds	26,577	1,709	5,036	3,397	16,435
Non-Government Backed CMOs	144,864	1,368	4,681	19,448	119,367
Repurchase Agreements	37,100	37,100	-	-	-
Short Term Bills and Notes	34,128	34,128	-	-	-
Sukuk	2,530	-	1,300	1,230	-
Funds/Pooled Investments	1,576,573	-	1,015,783	288,608	272,182
Total Debt Securities	\$ 6,919,723	\$ 196,624	\$ 2,998,867	\$ 1,200,890	\$ 2,523,342

In the tables above, the fair values of inflation indexed bonds are reflected in the columns based on their stated maturity dates. The principal balances of these bonds are adjusted every six months based on the inflation index for that period.

Some investments are more sensitive to interest rate changes than others. Variable and floating rate collateralized mortgage obligations (CMOs), asset-backed securities (ABS), interest-only and principal-only securities are examples of investments whose fair values may be highly sensitive to interest rate changes.

Interest-only (IO) and principal-only (PO) strips are transactions which involve the separation of the interest and principal components of a security. They are highly sensitive to prepayments by mortgagors, which may result from a decline in interest rates. The SIB held POs valued at \$4.8 million and \$4.9 million and IOs valued at \$18.9 million and \$21.4 million at June 30, 2023 and 2022, respectively. The SIB has no policy regarding IO or PO strips.

Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The State Investment Board maintains a highly diversified portfolio of debt securities encompassing a wide range of credit ratings. Although the SIB has no overall policy regarding credit risk, each debt securities manager is given a specific set of guidelines to invest within based on the mandate for which it was hired. The guidelines specify in which range of credit the manager may invest. These ranges include investment grade and below investment grade categories. The following tables present the SIB's ratings as of June 30, 2023 and 2022, (expressed in thousands).

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2023	Total Fair Value	Credit Rating*										
		AAA	AA	A	BBB	BB	B	CCC	CC	C	D	NR
Asset Backed Securities	\$ 439,098	\$ 241,736	\$ 60,920	\$ 47,744	\$ 17,512	\$ 1,684	\$ 498	\$ 2,437	\$ 741	\$ -	\$ 607	\$ 65,219
Collateralized Bond	1,652	1,652	-	-	-	-	-	-	-	-	-	-
Commercial Mortgage Backed	322,945	246,189	10,782	8,128	8,600	1,037	2,449	1,604	18	-	-	44,138
Commercial Paper	106,717	-	-	57,240	-	-	-	-	-	-	-	49,477
Corporate Bonds	1,920,369	11,430	53,474	503,201	1,089,641	189,402	52,693	11,467	39	25	117	8,880
Corporate Convertible Bonds	11,596	-	-	-	1,426	4,457	-	1,852	-	-	-	3,861
Govt Agencies	31,455	3,467	3,411	6,306	10,135	3,682	-	-	-	-	-	4,454
Govt Bonds	54,168	-	2,556	1,881	29,067	13,418	2,395	852	-	-	-	3,999
Govt Mortgage Backed	1,062,793	-	1,032,051	9,381	17,876	1,888	388	-	-	-	-	1,209
Govt Issued CMB	15,871	2,239	13,029	-	603	-	-	-	-	-	-	-
Index Linked Government Bonds	117,046	-	-	-	-	-	-	-	-	-	-	117,046
Municipal/Provincial Bonds	22,222	2,764	11,674	5,481	629	723	-	951	-	-	-	-
Non-Govt Backed CMOs	106,134	28,615	7,466	14,956	6,784	3,335	938	378	361	-	-	43,301
Repurchase Agreements	(786)	-	-	-	-	-	-	-	-	-	-	(786)
Short Term Bills & Notes	4,479	-	4,479	-	-	-	-	-	-	-	-	-
Sukuk	2,506	-	-	-	2,506	-	-	-	-	-	-	-
Funds/Pooled Investments	1,420,254	448,497	263,424	511,166	66,210	18,471	26,042	-	-	-	-	86,444
Total Credit Risk of Debt Securities	\$ 5,638,519	\$ 986,589	\$ 1,463,266	\$ 1,165,484	\$ 1,250,989	\$ 238,097	\$ 85,403	\$ 19,541	\$ 1,159	\$ 25	\$ 724	\$ 427,242
US Govt & Agencies **	1,466,496											
Total Debt Securities	\$ 7,105,015											

2022	Total Fair Value	Credit Rating*										
		AAA	AA	A	BBB	BB	B	CCC	CC	C	D	NR
Asset Backed Securities	\$ 469,733	\$ 250,460	\$ 65,209	\$ 44,886	\$ 34,041	\$ 3,615	\$ 1,396	\$ 2,589	\$ 1,336	\$ -	\$ 690	\$ 65,511
Bank Loans	15,007	-	-	-	120	3,840	8,268	2,762	-	-	-	17
Collateralized Bond	2,446	2,446	-	-	-	-	-	-	-	-	-	-
Commercial Mortgage Backed	362,729	265,816	14,871	10,267	7,395	12,384	4,054	1,727	86	11	-	46,118
Commercial Paper	27,977	-	-	-	-	-	-	-	-	-	-	27,977
Corporate Bonds	2,076,494	10,432	62,912	476,167	1,150,129	254,728	92,050	19,580	248	178	201	9,869
Corporate Convertible Bonds	19,220	-	-	-	2,441	4,583	5,773	2,584	-	-	-	3,839
Govt Agencies	34,793	3,524	5,031	7,068	11,824	1,708	-	336	-	-	-	5,302
Govt Bonds	668,660	604,042	5,187	2,496	34,422	14,473	2,120	2,700	-	-	-	3,220
Govt Mortgage Backed	629,454	-	590,051	10,212	17,357	7,178	4,570	-	-	-	-	86
Govt Issued CMB	13,865	1,762	11,252	-	851	-	-	-	-	-	-	-
Index Linked Government Bonds	-	-	-	-	-	-	-	-	-	-	-	-
Municipal/Provincial Bonds	26,577	2,440	12,963	6,404	3,486	868	-	416	-	-	-	-
Non-Govt Backed CMOs	144,864	42,071	9,160	18,205	17,844	7,379	1,606	481	906	35	-	47,177
Repurchase Agreements	37,100	37,100	-	-	-	-	-	-	-	-	-	-
Short Term Bills & Notes	9,626	-	1,809	7,817	-	-	-	-	-	-	-	-
Sukuk	2,530	-	-	-	2,530	-	-	-	-	-	-	-
Funds/Pooled Investments	1,576,573	461,824	271,148	682,937	82,142	17,553	30,030	-	-	-	-	30,939
Total Credit Risk of Debt Securities	6,117,648	\$ 1,681,917	\$ 1,049,593	\$ 1,266,459	\$ 1,364,582	\$ 328,309	\$ 149,867	\$ 33,175	\$ 2,576	\$ 224	\$ 891	\$ 240,055
US Govt & Agencies **	802,075											
Total Debt Securities	\$ 6,919,723											

- * Ratings are determined in the following order:
1. S&P rating
 2. Moody's rating
 3. Fitch rating
 4. Manager-determined rating (internal rating)
 5. If no ratings available using steps 1-4, then shown as not rated.

** US government agency securities explicitly guaranteed by the US government are categorized here. Credit ratings of US government agency securities that are only implicitly guaranteed by the US

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government are categorized accordingly in the main body of these tables. Implicitly guaranteed agency securities included in the *Gov't Agencies, Gov't Bonds, Gov't Mortgage Backed, Gov't Issued CMB, Index Linked Gov't Bonds, and Short Term Bills and Notes* categories are issued by FNMA, FHLB, FHLMC, and SLMA.

Concentration of Credit Risk

Concentration of credit risk is the risk of loss that may be attributed to the magnitude of an investment in a single issuer. As of June 30, 2023 and 2022, the SIB's portfolio has no single issuer exposure that comprises 5% or more of the overall portfolio, excluding investments issued or explicitly guaranteed by the US government and investments in mutual funds, external investment pools, and other pooled investments. Therefore, there is no concentration of credit risk.

Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. Although the SIB does not have a formal investment policy governing foreign currency risk, the SIB manages its exposure to fair value loss by requiring their international securities investment managers to maintain diversified portfolios to limit foreign currency and security risk. The SIB's exposure to foreign currency risk is presented in the following tables as of June 30, 2023 and 2022 (expressed in thousands).

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2023

Currency	Short-Term	Debt	Equity	Real Estate	Total
Argentine peso	\$ 12	\$ -	\$ -	\$ -	\$ 12
Australian dollar	9,127	-	6,168	-	15,295
Brazilian real	(30)	-	3,955	-	3,925
British pound sterling	(25,935)	18,162	90,232	-	82,459
Canadian dollar	(1,533)	288	25,969	-	24,724
Chilean peso	(315)	-	-	-	(315)
Chinese yuan renminbi	301	-	-	-	301
Danish krone	(62)	-	20,407	-	20,345
Euro	(24,754)	25,571	111,552	610	112,979
Hong Kong Off-Shore-Chinese yuan renminbi	4,239	-	12,233	-	16,472
Hong Kong dollar	-	-	20,282	-	20,282
Hungarian forint	1	-	-	-	1
Indian rupee	6,644	-	-	-	6,644
Indonesian rupiah	1,174	-	-	-	1,174
Japanese yen	44,521	(40,083)	35,267	-	39,705
Mexican peso	(337)	-	-	-	(337)
New Israeli shekel	(1)	-	-	-	(1)
New Taiwan dollar	370	-	-	-	370
Norwegian krone	87	-	5,532	-	5,619
Peruvian nuevo sol	202	-	-	-	202
Polish zloty	(2)	-	-	-	(2)
Russian ruble	276	-	2,092	-	2,368
Singapore dollar	(3,943)	-	-	-	(3,943)
South Korean won	(338)	-	6,011	-	5,673
Swedish krona	562	-	26,479	-	27,041
Swiss franc	2	-	28,659	-	28,661
Thai baht	4,432	-	-	-	4,432
International commingled funds (various currencies)	-	-	2,690,182	32,629	2,722,811
Total international investment securities	\$ 14,700	\$ 3,938	\$ 3,085,020	\$ 33,239	\$ 3,136,897

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2022

Currency	Short-Term	Debt	Equity	Real Estate	Total
Argentine peso	\$ 176	\$ 177	\$ -	\$ -	\$ 353
Australian dollar	(5,078)	-	49,149	-	44,071
Brazilian real	204	524	8,083	-	8,811
British pound sterling	(43,460)	44,164	192,397	-	193,101
Canadian dollar	(283)	301	50,088	-	50,106
Chilean peso	(254)	-	-	-	(254)
Danish krone	(99)	379	52,240	-	52,520
Euro	(5,557)	4,565	360,595	533	360,136
Hong Kong Off-Shore-Chinese yuan renminbi	(4,700)	-	-	-	(4,700)
Hong Kong dollar	1,369	-	43,948	-	45,317
Hungarian forint	(365)	-	2,161	-	1,796
Indonesian rupiah	50	-	1,370	-	1,420
Japanese yen	18,329	(15,315)	169,453	-	172,467
Mexican peso	(682)	1,368	1,451	-	2,137
New Israeli shekel	391	-	2,805	-	3,196
New Taiwan dollar	177	-	8,398	-	8,575
New Zealand dollar	(145)	-	3,309	-	3,164
Norwegian krone	184	-	11,402	-	11,586
Peruvian nuevo sol	(1,016)	793	-	-	(223)
Polish zloty	(439)	-	-	-	(439)
Singapore dollar	142	-	8,667	-	8,809
South African rand	(2)	-	783	-	781
South Korean won	(59)	-	8,298	-	8,239
Swedish krona	175	-	53,615	-	53,790
Swiss franc	525	-	83,962	-	84,487
Thai baht	102	-	2,908	-	3,010
Turkish lira	20	-	1,143	-	1,163
International commingled funds (various currencies)	-	-	1,433,227	33,273	1,466,500
Total international investment securities	\$ (40,295)	\$ 36,956	\$ 2,549,452	\$ 33,806	\$ 2,579,919

Negative amounts represent short positions.

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Derivative Securities

Derivatives are financial arrangements between two parties whose payments are based on, or “derived” from, the performance of some agreed upon benchmark. The investment policies of the SIB’s clients allow the use of derivative securities to hedge or replicate underlying exposures but not for speculation. All derivatives are considered investment derivative instruments. The fair value of all derivative securities is reported in the statement of net position. At June 30, 2023 and 2022, the SIB had four types of derivative securities: futures, options, swaps and currency forwards.

Futures

Futures represent commitments to purchase (asset) or sell (liability) securities at a future date and at a specific price. Futures contracts are traded on organized exchanges (exchange traded) thereby minimizing the SIB’s counterparty risk. The net change in the futures contracts’ value is settled daily in cash with the exchanges. Net gains or losses resulting from the daily settlements are included in net change in fair value of investments in the statement of changes in net position and totaled \$64.7 and \$(68.4) million for fiscal years 2023 and 2022, respectively. At June 30, 2023 and 2022, the SIB investment portfolio had the notional futures balances shown below (expressed in thousands).

<u>Futures</u>	Notional Value	
	June 30, 2023	June 30, 2022
Cash & Cash Equivalent Derivative Futures		
Long	\$ 139,071	\$ 590,720
Short	(394,403)	(83,089)
Commodity Derivative Futures		
Short	(81,977)	(12,092)
Equity Derivative Futures		
Long	446,414	501,730
Fixed Income Derivative Futures		
Long	755,688	1,050,219
Short	(922,277)	(915,728)
Total Futures	<u>\$ (57,484)</u>	<u>\$ 1,131,760</u>

Options

Options represent or give buyers the right, but not the obligation, to buy (call) or sell (put) an asset at a preset price over a specified period. Options are traded on organized exchanges (exchange traded) thereby minimizing the SIB’s counterparty credit risk. The option’s price is usually a small percentage of the underlying asset’s value. As a seller of a financial option, the SIB, through its investment manager, receives a premium at the beginning of the agreement and bears the risk of an unfavorable change in the price of the financial instrument underlying the option. As a buyer of a financial option, the SIB, through its investment manager, pays a premium at the beginning of the agreement and the counterparty bears the risk of an unfavorable change in the price of the financial instrument underlying the option. Gains and losses on options are determined based on fair values and recorded with the net change in fair value of investments in the statement of changes in net position and totaled \$3.5 million and \$0.6 million in fiscal years 2023 and 2022, respectively. At June 30, 2023 and 2022, the SIB investment portfolio had the following option balances (expressed in thousands).

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<u>Options</u>	Fair Value	
	<u>June 30, 2023</u>	<u>June 30, 2022</u>
Cash & Other Options		
Call	\$ (170)	\$ (1,033)
Put	(1,931)	(2,834)
Equity Options		
Call	438	1,074
Fixed Income Options		
Call	(57)	(325)
Put	(277)	(269)
Total Options	<u>\$ (1,997)</u>	<u>\$ (3,387)</u>

Swaps

A swap is a derivative in which counterparties exchange certain benefits of one party's financial instrument for those of the other party's financial instrument. Specifically, the two counterparties agree to exchange one stream of cash flows for another stream. The SIB, through its investment managers, has entered into various swap agreements in an attempt to manage its exposure to interest rate, inflation, credit and total return risk.

Gains and losses on swaps are determined based on fair values and are recorded with the net change in fair value of investments in the statement of changes in net position and totaled \$(670) thousand \$(19.5) million for fiscal years 2023 and 2022, respectively. The maximum loss that would be recognized at June 30, 2023 and 2022, if all counterparties failed to perform as contracted is \$2.5 million and \$3 million, respectively. Swap fair values are determined by a third-party pricing source. At June 30, 2023 and 2022, the SIB's investment portfolio had the swap fair value balances as shown below (expressed in thousands).

Credit Default Swaps

Credit risk represents the exposure to fair value losses arising from a credit event such as default, failure to pay, restructuring or bankruptcy. In a credit default swap (CDS) contract, the protection buyer of the CDS makes a series of payments to the protection seller and, in exchange, receives a payoff if the credit instrument experiences a credit event. CDS contracts are also used to establish exposure to a desired credit instrument.

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Counterparty/Moody's Rating	Notional Amount		Expiration Date Range	Fair Value	
	June 30, 2023	June 30, 2022		June 30, 2023	June 30, 2022
Bank of America/Aa2 (2 contracts)	\$ -	\$ (1,105)	2022	\$ -	\$ 2
Bank of America/Aa2 (5 contracts)	(128,400)		2027 - 2028	2,145	
Barclays Capital Inc/A1 (2 contracts)	-	(10,659)	2027	-	(262)
Barclays Capital Inc/A1 (1 contracts)	(4,000)	(100)	2028	(29)	(8)
BNP Paribas Sa Paris/Aa3 (1 contract)	-	130	2027	-	(22)
BNP Paribas Sa Paris/Aa3 (1 contract)	(100)		2027	(4)	
Citibank/Aa3 (24 contracts)	-	(400)	2023	-	(27)
Citibank/A1 (2 contracts)	(400)	2,160	2024 - 2027	(9)	(143)
Citibank/A1 (2 contract)	-		2024 - 2027	-	
Citigroup Global Markets/A1 (15 contracts)	-	(775)	2022 - 2028	-	(24)
Citigroup Global Markets/A1 (11 contracts)	(4,655)		2023 - 2028	61	
Credit Suisse Intl London/A1 (1 contracts)	-		2023	-	
Goldman Sachs/A2 (6 contracts)	-	(2,400)	2023 - 2027	-	(143)
Goldman Sachs/A2 (6 contracts)	(2,400)		2023 - 2027	(52)	
JP Morgan Chase/Aa2 (1 contract)	(400)		2024	(4)	
Morgan Stanley/A1 (2 contracts)	-	(800)	2024 - 2027	-	(58)
Morgan Stanley/A1 (1 contract)	28,000		2028	(432)	
Wells Fargo Bank/Aa2 (13 contracts)	-		2022 - 2028	-	
Wells Fargo Bank/Aa2 (13 contracts)	(924)	18,733	2023 - 2028	(27)	(14)
Total Credit Default Swaps	<u>\$ (113,279)</u>	<u>\$ 4,784</u>		<u>\$ 1,649</u>	<u>\$ (699)</u>

The notional amount may be positive or negative, depending on whether the position is long or short, respectively.

Interest Rate Swaps

Interest rate risk represents the exposure to fair value losses arising from future changes in prevailing market interest rates. In the most common type of interest rate swap arrangement, one party agrees to pay fixed interest payments on designated dates to a counterparty, who in turn agrees to make return interest payments that float with some reference rate.

Counterparty/Moody's Rating	Notional Amount		Expiration Date Range	Fair Value	
	June 30, 2023	June 30, 2022		June 30, 2023	June 30, 2022
Bank of America/Aa2 (5 contracts)	\$ 48,338	\$ -	2024 - 2041	\$ 708	\$ -
Citigroup Global Markets/A1 (58 contracts)	-	175,583	2022 - 2052	-	470
Citigroup Global Markets/A1 (47 contracts)	93,429	-	2025 - 2053	1,093	-
Credit Suisse First Boston/A1 (4 contracts)	-	7,026	2027 - 2029	-	-
JP Morgan Chase/Aa2 (18 contracts)	61,954	-	2024 - 2034	948	-
JP Morgan Chase/Aa2 (14 contracts)	-	13,445	2023 - 2034	-	794
Morgan Stanley/A1 (2 contracts)	-	82,500	2024 - 2025	-	(3,419)
Morgan Stanley/A1 (8 contracts)	64,670	-	2025 - 2033	(632)	-
Wells Fargo Bank/Aa2 (13 contracts)	116,255	-	2025 - 2052	1,942	-
Wells Fargo Bank/Aa2 (23 contracts)	-	369,345	2023 - 2052	-	(414)
Total Interest Rate Swaps	<u>\$ 384,646</u>	<u>\$ 647,899</u>		<u>\$ 4,059</u>	<u>\$ (2,569)</u>

The notional amount may be positive or negative, depending on whether the position is long (fixed rate payer) or short (floating rate payer), respectively.

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Inflation Swaps

Inflation risk represents the exposure to fair value losses arising from future changes in prevailing market inflation. In an inflation swap, one party pays a fixed rate on a notional principal amount, while the other party pays a floating rate linked to an inflation index, such as the Consumer Price Index (CPI).

Counterparty/Moody's Rating	Notional Amount		Expiration Date Range	Fair Value	
	June 30, 2023	June 30, 2022		June 30, 2023	June 30, 2022
Goldman Sachs/A2 (2 contracts)	\$ 18,956	\$ -	2023	\$ (452)	\$ -
JP Morgan Chase/Aa2 (1 contracts)	2,313		2023	38	
Total Inflation Swaps	\$ 21,269	\$ -		\$ (414)	\$ -

The notional amount may be positive or negative, depending on whether the position is long (fixed rate payer) or short (floating rate payer), respectively.

Total Return Swaps

A total return swap is an agreement in which one party makes payments based on a set rate, either fixed or variable, while the other party makes payments based on the return of an underlying asset (income and capital gains). The underlying asset, or reference asset, is owned by the party receiving the set rate payment.

Counterparty/Moody's Rating	Notional Amount		Expiration Date Range	Fair Value	
	June 30, 2023	June 30, 2022		June 30, 2023	June 30, 2022
Goldman Sachs/A2 (1 contract)	\$ 6,310	\$ -	2023	\$ (227)	\$ -
JP Morgan Chase/Aa2 (3 contracts)	15,725	-	2023	(289)	-
Total Total Return Swaps	\$ 22,035	\$ -		\$ (516)	\$ -

The notional amount may be positive or negative, depending on whether the position is long (fixed rate payer) or short (floating rate payer), respectively.

Currency Forwards

Currency forwards represent forward exchange contracts that are entered into in order to manage the exposure to changes in currency exchange rates on the currency denominated portfolio holdings. A forward exchange contract is a commitment to purchase (positive) or sell (negative) a currency at a future date at a negotiated forward rate. The gain or loss arising from the difference between the original contracts and the closing of such contracts is included in the net change in fair value of investments in the statements of changes in net position and totaled \$(2.3) million and \$17.9 million for fiscal years 2023 and 2022, respectively. At June 30, 2023 and 2022, the SIB's investment portfolio included the currency forwards balances shown below (expressed in thousands).

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	Currency	Cost	Purchases	Sales	Fair Value	
					6/30/2023	6/30/2022
AUD	Australian dollar	\$ 9,174	\$ 11,697	\$ (2,523)	\$ 9,126	\$ (5,364)
BRL	Brazilian real	(97)	413	(510)	(118)	(165)
GBP	British pound sterling	(28,584)	15,054	(43,638)	(29,110)	(45,640)
CAD	Canadian dollar	(57)	36	(94)	(58)	(316)
CLP	Chilean peso	(311)	-	(311)	(315)	(253)
CNH	Chinese offshore	(25)	-	(25)	(23)	(9,050)
CNY	Chinese Yuan	318	318	-	301	-
DKK	Danish Krone	(62)	55	(116)	(63)	(601)
EUR	Euro	(70,119)	60,154	(130,274)	(70,774)	(88,167)
HUF	Hungarian Forint	0	-	-	-	555
IDR	Indonesia Rupiah	(116)	244	(360)	(115)	-
INR	Indian Rupee	6,628	6,628	-	6,644	-
JPY	Japanese yen	4,980	5,672	(692)	4,693	(8,206)
MXN	Mexican peso	(339)	2	(341)	(363)	463
ILS	New Israeli shekel	-	-	-	-	(3,315)
NZD	New Zealand dollar	-	-	-	-	653
NOK	Norwegian Krone	-	-	-	-	399
PEN	Peruvian nuevo sol	225	621	(396)	202	(1,016)
PLN	Poland Zloty	-	-	-	-	665
SGD	Singapore Dollar	(3,989)	-	(3,989)	(3,948)	-
ZAR	South African rand	-	-	-	-	(861)
KRW	South Korean won	(348)	1	(348)	(338)	(346)
THB	Thai Baht	4,535	4,535	-	4,432	-
TWD	Taiwan Dollar	376	2,065	(1,689)	370	-
USD	United States dollar	77,812	185,308	(107,496)	77,812	164,414
Total forwards subject to currency risk					\$ (1,645)	\$ 3,849

Derivative Interest Rate Risk

Derivative interest rate risk is the risk that changes in interest rates will adversely affect the value of an interest rate-based derivative investment. The SIB does not have a formal investment policy regarding such derivative investments. At June 30, 2023 and 2022, the tables below show the SIB's derivative investments subject to interest rate risk (expressed in thousands).

2023	Total Notional Value	3 months or less	3 to 6 months	6 to 12 months	1-5 years	5-10 years	Greater than 10 years
Futures-commodity contracts	(81,977)	-	(81,977)	-	-	-	-
Total	\$ (503,898)	\$ (537,437)	\$ 289,108	\$ (170,589)	\$ (84,980)	\$ -	\$ -

	Total Fair Value	3 months or less	3 to 6 months	6 to 12 months	1-5 years	5-10 years	Greater than 10
Options on futures	(1,985)	78	(858)	(941)	(264)	-	-
Options - Foreign Exchange Contracts	-	-	-	-	-	-	-
Swaps - interest rate contracts	3,543	(448)	(38)	(22)	(2,537)	1,392	5,196
Swaps - credit contracts	1,649	-	3	13	2,070	(437)	-
Total	\$ 2,757	\$ (517)	\$ (1,084)	\$ (1,062)	\$ (731)	\$ 955	\$ 5,196

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Notes to the Financial Statements

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2022	Total	3 months or less	3 to 6 months	6 to 12 months	1-5 years	5-10 years	Greater than 10 years
	Notional Value						
Futures-interest rate contracts	\$ 642,122	\$ (681,760)	\$ 1,065,168	\$ 151,913	\$ 106,801	\$ -	\$ -
Futures-commodity contracts	(12,092)	-	(12,092.00)	-	-	-	-
Total	<u>\$ 630,030</u>	<u>\$ (681,760)</u>	<u>\$ 1,053,076</u>	<u>\$ 151,913</u>	<u>\$ 106,801</u>	<u>\$ -</u>	<u>\$ -</u>
	Total Fair Value	3 months or less	3 to 6 months	6 to 12 months	1-5 years	5-10 years	Greater than 10 years
Options - interest rate contracts	\$ (466)	\$ (357)	\$ -	\$ -	\$ (109)	\$ -	\$ -
Options on futures	(3,853)	(570)	(2,687)	(295)	(301)	-	-
Options - credit contracts	(142)	(142)	-	-	-	-	-
Swaps - interest rate contracts	(2,569)	-	-	13	(4,471)	(4,701)	6,590
Swaps - credit contracts	(699)	2	3	(52)	(483)	(169)	-
Total	<u>\$ (7,729)</u>	<u>\$ (1,067)</u>	<u>\$ (2,684)</u>	<u>\$ (334)</u>	<u>\$ (5,364)</u>	<u>\$ (4,870)</u>	<u>\$ 6,590</u>

Fair Value Measurement

The SIB categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset and give the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (level 1 measurements) and the lowest priority to unobservable inputs (level 3 measurements).

Level 1 Unadjusted quoted prices for identical instruments in active markets.

Level 2 Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs are observable.

Level 3 Valuations derived from valuation techniques in which significant inputs are unobservable.

Investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy.

The following tables show the fair value leveling of the SIB's investment portfolio at June 30, 2023 and 2022 (expressed in thousands).

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June 30, 2023 and 2022

2023	Dollars in (000)			
	Fair Value 6/30/23	Fair Value Measures Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by Fair Value Level				
Short Term Securities				
Commercial Paper	\$ 106,717	\$ -	\$ 106,717	\$ -
Short Term Bills and Notes	14,388	-	14,388	-
Total Short Term Securities	121,105	-	121,105	-
Fixed Income Investments				
Asset Backed Securities	439,098	-	438,500	598
Bank Loans	-	-	-	-
Collateralized Bonds	1,652	-	1,652	-
Commercial Mortgage-Backed	322,945	-	322,945	-
Corporate Bonds	1,918,998	-	1,918,998	-
Corporate Convertible Bonds	11,596	-	11,596	-
Funds - Fixed Income ETF	16,687	16,687	-	-
Government Agencies	32,016	-	32,016	-
Government Bonds	774,763	-	774,763	-
Government Mortgage Backed Securities	1,264,892	-	1,264,823	69
Gov't-issued Commercial Mortgage-Backed	18,255	-	18,255	-
Index Linked Government Bonds	635,558	-	635,558	-
Municipal/Provincial Bonds	22,222	-	22,222	-
Non-Government Backed C.M.O.s	102,353	-	102,353	-
Sukuk	2,506	-	2,506	-
Total Fixed Income Investments	5,563,541	16,687	5,546,187	667
Equity Investments				
Common Stock	3,124,600	3,124,202	-	398
Convertible Equity	290	290	-	-
Funds - Equities ETF	282,983	282,983	-	-
Preferred Stock	-	-	-	-
Stapled Securities	-	-	-	-
Total Equity Investments	3,407,873	3,407,475	-	398
Derivative Investments				
Exchange Cleared Swaps	5,778	-	5,778	-
Options	(1,997)	(1,547)	(450)	-
Swaps	(1,000)	-	(1,000)	-
Total Derivative Investments	2,781	(1,547)	4,328	-
Total Investments by Fair Value Level	\$ 9,095,300	\$ 3,422,615	\$ 5,671,620	\$ 1,065

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	Dollars in (000)			
		Unfunded Commitments	Redemption Frequency (If Currently Eligible)	Redemption Notice Period
Investments Measured at the Net Asset Value (NAV)				
Commingled Funds-Debt	\$ 1,416,003	\$ -	Daily, monthly	1-15 days
Commingled Funds-Equities	3,223,944	-	Daily, monthly	1-15 days
Distressed Debt	211,245	-	Quarterly, Not eligible	60 days
Long/Short	811,402	-	Monthly	15 days
Mezzanine Debt	1	-	Not eligible	Not eligible
Private Credit	623,507	120,700	Not eligible	Not eligible
Private Equity	1,034,930	540,130	Not eligible	Not eligible
Real Assets	2,814,301	455,448	Quarterly, Not eligible	30-90 days
Total Investments Measured at the NAV	\$ 10,135,333	\$ 1,116,278		
Investments at Other Than Fair Value				
Cash and adjustments to cash	\$ 34,099			
Bank Certificates of Deposit	180,767			
Other miscellaneous securities	5,211			
Repurchase Agreements	(786)			
Total Investments at Other Than Fair Value	\$ 219,291			
Total Investments	\$ 19,449,924			

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June 30, 2023 and 2022

2022	Fair Value Measures Using			
	Fair Value 6/30/22	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by Fair Value Level				
Short Term Securities				
Commercial Paper	\$ 27,977	\$ -	\$ 27,977	\$ -
Short Term Bills and Notes	34,128	-	34,128	-
Total Short Term Securities	62,105	-	62,105	-
Fixed Income Investments				
Asset Backed Securities	469,733	-	469,733	-
Bank Loans	15,007	-	15,007	-
Collateralized Bonds	2,446	-	2,446	-
Commercial Mortgage-Backed	362,729	-	362,729	-
Corporate Bonds	2,075,973	-	2,074,660	1,313
Corporate Convertible Bonds	19,220	-	19,220	-
Funds - Fixed Income ETF	16,829	16,829	-	-
Government Agencies	35,569	-	35,569	-
Government Bonds	735,584	-	735,584	-
Government Mortgage Backed Securities	688,660	-	688,660	-
Govt-issued Commercial Mortgage-Backed	13,960	-	13,960	-
Index Linked Government Bonds	650,572	-	650,572	-
Municipal/Provincial Bonds	26,577	-	26,577	-
Non-Government Backed C.M.O.s	140,879	-	140,879	-
Sukuk	2,530	-	2,530	-
Total Fixed Income Investments	5,256,268	16,829	5,238,126	1,313
Equity Investments				
Common Stock	4,727,266	4,726,869	-	397
Convertible Equity	5,574	5,574	-	-
Funds - Equities ETF	122,419	122,419	-	-
Preferred Stock	5,431	3,130	2,301	-
Rights/Warrants	-	-	-	-
Stapled Securities	1,311	1,311	-	-
Total Equity Investments	4,862,001	4,859,303	2,301	397
Derivative Investments				
Exchange Cleared Swaps	(2,988)	-	(2,988)	-
Options	(3,387)	(2,921)	(466)	-
Swaps	(280)	-	(280)	-
Total Derivative Investments	(6,655)	(2,921)	(3,734)	-
Total Investments by Fair Value Level	\$ 10,173,719	\$ 4,873,211	\$ 5,298,798	\$ 1,710

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Dollars in (000)				
Investments Measured at the Net Asset Value (NAV)		Unfunded Commitments	Redemption Frequency (If Currently Eligible)	Redemption Notice Period
Commingled Funds-Debt	\$ 1,559,743	\$ -	Daily, monthly	1-15 days
Commingled Funds-Equities	1,547,266	-	Daily, monthly	1-15 days
Distressed Debt	211,353	-	Quarterly, Not eligible	60 days
Long/Short	284,678	-	Monthly	15 days
Mezzanine Debt	169	8,499	Not eligible	Not eligible
Private Credit	567,890	130,700	Not eligible	Not eligible
Private Equity	761,808	768,744	Not eligible	Not eligible
Real Assets	2,408,855	662,888	Quarterly, Not eligible	30-90 days
Total Investments Measured at the NAV	\$ 7,341,762	\$ 1,570,831		
Investments at Other Than Fair Value				
Cash and adjustments to cash	\$ 199,035			
Bank Certificates of Deposit	192,033			
Other miscellaneous securities	4,815			
Repurchase Agreements	37,100			
Total Investments at Other Than Fair Value	\$ 432,983			
Total Investments	\$ 17,948,464			

Securities classified in Level 1 are valued using quoted prices in active markets for those securities. Securities classified in Level 2 and Level 3 are valued using methodologies such as various bid evaluations, market averages and other matrix pricing techniques as well as values derived from associated traded securities or last trade data. In instances where inputs used to measure fair value fall into different levels, the fair value is categorized based on the lowest level input that is significant to the valuation.

Investments valued at the net asset value (NAV) per share (or its equivalent) have been classified separately in the tables above and include investments considered to be *alternative investments* as defined by the AICPA. The definition includes investments for which a readily determinable fair value does not exist (that is, investments not listed on national exchanges or over-the-counter markets, or for which quoted market prices are not available from sources such as financial publications, the exchanges, or NASDAQ). These types of investments can be held within any of the asset classes used by the SIB based on underlying portfolio holdings and analysis of risk and return relationships. These investments can be structured in different ways, including limited partnerships, limited liability companies, common trusts and mutual funds. Some are closed-ended with a specific life and capital commitment while others are open-ended with opportunity for ad hoc contributions or withdrawals and termination upon proper notice.

Commingled/Mutual Funds — These types of funds are open-ended funds and may be utilized in equity or fixed income asset classes. They are funds made up of underlying securities that have readily available fair values (publicly traded stocks or bonds). The SIB owns units of these funds rather than the individual securities. Contributions or withdrawals from these funds can be made as needed, generally with daily or monthly liquidity, with a notice period of one to fifteen days. Because they are liquid funds, there are no unfunded commitments for these types of investments.

Distressed Debt — these include investments in the debt instruments of companies which may be publicly traded or privately held that are financially distressed and are either in bankruptcy or likely candidates for bankruptcy. Typical holdings are senior and subordinated debt instruments, mortgages and bank loans. The SIB is including these types of investments in its global fixed income allocations. As of June 30, 2023 and June 30, 2022, all unfunded commitments in the SIB distressed debt portfolios had been released. One of the funds in this category is not eligible for redemptions, while the other fund is eligible for redemptions with quarterly liquidity and 60 days notice.

Equity Long/Short — This strategy is a combination of long and short positions, primarily in publicly traded equities. The SIB utilizes this strategy, through a limited partnership structure, within its global equity allocations. This is an open-ended fund with monthly liquidity with a notice period of 15 days. There was no unfunded commitment as of June 30, 2023 and 2022.

Mezzanine Debt — This strategy is a hybrid of debt and equity financing. It is essentially debt capital that gives the lender the rights to convert to an ownership or equity interest in the company if the loan is not paid back in time and in full. It is generally subordinated to senior debt. The SIB utilizes this strategy, through a limited partnership structure, in its global fixed income allocation. The two funds in this category are not eligible for redemptions, have remaining lives of 1-2 years, and no unfunded commitments as of both June 30, 2023 and 2022.

Private Credit — These investments include loans to private companies, privately placed debt of public companies, or loans backed by real assets. Loan repayment can be derived from either cash flows from an operating company or cash flows generated by a physical or esoteric asset. Private debt is typically secured and has various protections/covenants in place. The debt is customized to the borrower's requirement, thus rendering it illiquid. The SIB includes these strategies within its global fixed income allocation through limited partnership-type structures. Private credit issuers may be investment grade but are typically below-investment grade and similar in some respect to the syndicated bank loan and high yield markets. The SIB participates in two senior private credit funds, commonly referred to as direct lenders, which are structured as custom managed accounts and are not eligible for redemptions during their investment lives. Due to the perpetual nature of the funds, the remaining investment lives fluctuate based on timing of new commitments, and the unfunded commitments totaled \$120.7 million and \$130.7 million as of June 30, 2023 and 2022, respectively.

Private Equity — Private Equity investments are typically private interests in corporations across different areas of the capital structure and in different stages of the corporations' development via limited partnership vehicles. Private Equity investments are illiquid and long term in nature (10-12 years), typically held until maturity. Private Equity portfolios generally have a "J-Curve Effect" whereby there are low to negative returns in the initial years due to the payment of investment management fees and initial funding of investments made by the General Partner during a period when investments are typically carried at cost and returns have not been realized. To diversify the program, Private Equity investments are made across business cycles, vintage years, and different strategies. The SIB has a dedicated sub-asset class for private equity investments within its global equity allocation in the pension pool and Legacy Fund. The SIB does not have the option to request redemptions from its private equity funds. The General Partner distributes earnings and proceeds from the sale of the underlying investments as transactions occur. The SIB has \$540.1 million and \$768.7 million in unfunded private equity commitments as of June 30, 2023 and 2022, respectively.

Venture Capital — these include investments in companies in a range of stages of development from start-up/seed stage, early stage, and later/expansion stage. Investments are typically made in years one through six and returns typically occur in years four through ten.

Buyouts — these include investments in funds that seek out and purchase underperforming or undervalued companies in order to improve them and sell them or take them public many years later. These funds are also often involved in management buyouts, which are buyouts conducted by the management of the company being purchased, and they often play key roles in leveraged buyouts, which are buyouts that are funded with borrowed money.

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Real Assets — These investments are intended to provide allocations to tangible assets that are expected to be inflation protected and provide performance above the inflation rate as indicated by the CPI. Investments are generally structured as limited partnerships or limited liability companies. Investments in Real Assets include:

Real Estate — includes investments in private vehicles through limited partnerships or commingled vehicles that have an ownership interest in direct real estate properties. The investment strategies may include “value added” strategies, which derive their return from both income and appreciation, “opportunistic”, which derive their return primarily through appreciation, and “alternative” which invest in less traditional types of property. Both domestic and international real estate funds are utilized. The SIB has a dedicated sub-asset class for these types of investments within global real assets. There are currently 11 real estate funds in the portfolio. Five of those funds are open-ended vehicles that accept redemption requests quarterly with a 30-90 day notification period. There were no unfunded commitments in the open-ended funds as of June 30, 2023 and 2022. The remaining six funds are closed-ended limited partnerships that are not eligible for redemptions. Those six funds have a combined unfunded commitment of \$158.7 million and \$250.5 million as of June 30, 2023 and 2022, respectively.

Timberland — includes investments in limited liability companies that have an ownership interest in properties where the value of the property is derived mainly from income-producing timber but also from the “higher and better use” value of the underlying land. The SIB includes these assets within its global real assets allocations. There are three funds in the portfolio, and they have no unfunded commitments. The funds are not eligible for redemption other than distributions of income and/or proceeds as determined by the investment manager. The funds have remaining lives of 1-4 years.

Infrastructure — includes investments in limited partnerships that have an ownership interest in transportation assets such as toll roads, tunnels and bridges; and regulated assets such as electricity transmission, gas and oil distribution and wastewater collection. Other possible investments would include communication assets and social infrastructure. The SIB includes these assets within its global real assets allocations. The infrastructure investments in the portfolio as of June 30, 2023 and 2022, include both open and closed-ended funds. The three open-ended funds have no unfunded commitments and are eligible for redemptions quarterly with 90 days notice. There may be a 3-12 month queue for receiving redemptions. The 17 closed-ended funds have unfunded commitments of \$296.8 million and \$412.4 million at June 30, 2023 and 2022, respectively, and are not eligible for redemptions.

Securities Lending

State statutes permit and the SIB has authorized the use of securities lending – loans of securities to broker-dealers and other entities for collateral with a simultaneous agreement to return the collateral for the same securities in the future. Northern Trust is the securities lending agent for the SIB. Securities are loaned versus collateral that may include cash, US government securities and irrevocable letters of credit. US securities are loaned versus collateral valued at 102% of the fair value of the securities plus any accrued interest. Non-US securities are loaned versus collateral valued at 105% of the fair value of the securities plus any accrued interest.

Non-cash collateral cannot be pledged or sold unless the borrower defaults. All securities loans can be terminated on demand by either the lender or the borrower, although the average term of SIB loans was approximately 74 and 70 days as of June 30, 2023 and 2022, respectively. Cash open collateral is invested in a short-term investment pool, which had an interest sensitivity of 3 and 1 days as of June 30, 2023 and

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2022, respectively. This pool is valued based on amortized cost. There were no violations of legal or contractual provisions, no borrower or lending agent default losses known to the securities lending agent. There are no dividends or coupon payments owing on the securities lent. Securities lending earnings are credited to participating clients on approximately the fifteenth day of the following month.

Indemnification deals with the situation in which a client's securities are not returned due to the insolvency of a borrower and Northern Trust has failed to live up to its contractual responsibilities relating to the lending of those securities. Northern Trust's responsibilities include performing appropriate borrower and collateral investment credit analyses, demanding adequate types and levels of collateral, and complying with applicable Department of Labor and Federal Financial Institutions Examination Council regulations concerning securities lending.

For securities loaned at fiscal year end, the SIB has no credit risk exposure to borrowers because the amounts the SIB owes the borrowers exceeds the amounts the borrowers owe the SIB.

The following represents the balances relating to the securities lending transactions at June 30, 2023 and 2022 (expressed in thousands).

2023	Securities Lent	Non-Cash Collateral Value	Cash Collateral Investment Value
Lent for cash collateral:			
US agency securities	\$ 636	\$ -	\$ 651
US government securities	327	-	336
US corporate fixed income securities	55,426	-	56,543
Global agency securities	210	-	223
Global government securities	555	-	579
Global corporate fixed income securities	1,997	-	2,152
US equities	55,709	-	56,892
Global equities	1,557	-	1,627
Lent for non-cash collateral:			
US agency securities	1,541	1,577	-
US government securities	7,671	7,850	-
US corporate fixed income securities	98,961	101,098	-
US equities	338,691	344,275	-
Global equities	1,414	1,499	-
Global corporate fixed	8,396	9,061	-
Total	\$ 573,091	\$ 465,360	\$ 119,003

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2022	Securities Lent	Non-Cash Collateral Value	Cash Collateral Investment Value
Lent for cash collateral:			
US agency securities	\$ 996	\$ -	\$ 1,037
US government securities	3,867	-	3,977
US corporate fixed income securities	82,501	-	85,182
Global government securities	2,214	-	2,346
Global corporate fixed income securities	8,052	-	8,554
US equities	39,907	-	41,241
Global equities	4,547	-	5,171
Lent for non-cash collateral:			
US agency securities	777	804	-
US government securities	3,751	3,881	-
US corporate fixed income securities	85,783	88,643	-
US equities	53,980	55,731	-
Global equities	7,679	8,310	-
Total	<u>\$ 294,241</u>	<u>\$ 157,369</u>	<u>\$ 147,705</u>

Note 4 - Capital Assets

	June 30, 2021	Additions	Retirements	June 30, 2022	Additions	Retirements	June 30, 2023
Office equipment	\$16,879	\$ -	\$ -	\$16,879	\$ -	\$ -	\$16,879
Less accumulated depreciation on office equipment	(15,530)	(1,349)	-	(16,879)	-	-	(16,879)
Software	1,213,500	680,999	-	1,894,499	1,899,328	-	3,793,827
Less accumulated depreciation on software	(1,213,500)	-	-	(1,213,500)	-	-	(1,213,500)
	<u>\$ 1,349</u>	<u>\$ (1,800)</u>	<u>\$ -</u>	<u>\$ 680,999</u>	<u>\$ 1,899,328</u>	<u>\$ -</u>	<u>\$ 2,580,327</u>

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Note 5 - State Agency Transactions

Due To/From Other State Agencies and Other State Funds

Amounts due from/to other state agencies and other state funds are as follows as of June 30, 2023 and 2022:

	2023	2022
Due To Other State Agencies		
Information Technology Department	\$ 39,202	\$ 33,736
Health Department	30	225.00
Department of Transportation	-	77.76
Office of Attorney General	2,875	505
Office of Management and Budget	3,717	338
Total due to other state agencies	<u>\$ 45,824</u>	<u>\$ 34,882</u>
Due From Other State Agencies		
Public Employees Retirement System	<u>\$ 1,531</u>	<u>\$ 1,281</u>
Total due from other state agencies	<u>\$ 1,531</u>	<u>\$ 1,281</u>

Due to other state agencies balances are a result of a time lag between the dates that services are provided, the payments are made, and the transactions are entered into the accounting system.

Note 6 - Changes in Noncurrent Liabilities

Changes in noncurrent liabilities are included in accrued expenses in the statements of changes in net position. The changes for the years ended June 30, 2023 and 2022 are summarized as follows:

	Beginning Balance 7/1/2022	Additions	Reductions	Ending Balance 6/30/2023	Amounts Due Within One Year
Accrued Leave	<u>\$158,988</u>	<u>\$194,600</u>	<u>(\$95,458)</u>	<u>\$258,130</u>	<u>\$143,772</u>
	Beginning Balance 7/1/2021	Additions	Reductions	Ending Balance 6/30/2022	Amounts Due Within One Year
Accrued Leave	<u>\$211,403</u>	<u>\$126,018</u>	<u>(\$178,433)</u>	<u>\$158,988</u>	<u>\$149,765</u>

Pension and Investment Trust Funds liquidate the accrued annual leave.

Note 7 - North Dakota Teachers' Fund for Retirement

Administration

The following brief description of TFFR is provided for general information purposes only. Participants should refer to NDCC Chapter 15-39.1 for more complete information.

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TFFR is a cost-sharing multiple-employer defined benefit pension plan covering all North Dakota public teachers and certain other teachers who meet various membership requirements. TFFR provides for pension, death and disability benefits. The cost to administer the TFFR plan is financed by investment income and contributions.

Responsibility for administration of the TFFR benefits program is assigned to a seven-member Board of Trustees (Board). The Board consists of the State Treasurer, the Superintendent of Public Instruction, and five members appointed by the Governor. The appointed members serve five-year terms which end on June 30 of alternate years. The appointed Board members must include two active teachers, one active school administrator, and two retired members. The TFFR Board submits any necessary or desirable changes in statutes relating to the administration of the fund, including benefit terms, to the Legislative Assembly for consideration. The Legislative Assembly has final authority for changes to benefit terms and contribution rates.

Membership

As of June 30, 2023 and 2022, the number of participating employer units was 206 and 207, respectively, consisting of the following:

	<u>June 30, 2023</u>	<u>June 30, 2022</u>
Public School Districts	171	171
County Superintendents	4	4
Special Education Units	19	19
Vocational Education Units	4	4
Other	8	9
Total	<u>206</u>	<u>207</u>

TFFR's membership consisted of the following:

TFFR Membership

	<u>2023</u>	<u>2022</u>
Retirees and beneficiaries currently receiving benefits	9,615	9,438
Terminated employees - vested	2,010	1,827
Terminated employees - nonvested	1,711	1,423
Total	<u>13,336</u>	<u>12,688</u>
Current employees		
Vested	8,336	8,326
Nonvested	3,430	3,476
Total	<u>11,766</u>	<u>11,802</u>

Member and Employer Contributions

Member and employer contributions paid to TFFR are set by NDCC Section 15-39.1-09. Every eligible teacher in the State of North Dakota is required to be a member of TFFR and is assessed at a rate of 11.75% of salary as defined by NDCC Section 15-39.1-04. Every governmental body employing a teacher must also pay into TFFR a sum equal to 12.75% of the teacher's salary. Member and employer contributions will be reduced to 7.75% each when the fund reaches 100% funded ratio on an actuarial basis.

A vested member who terminates covered employment may elect a refund of contributions paid plus 6% interest or defer payment until eligible for pension benefits. A non-vested member who terminates covered employment must claim a refund of contributions paid before age 70½. Refunded members forfeit all service credits under TFFR. These service credits may be repurchased upon return to covered employment under certain circumstances, as defined by the NDCC.

Pension Benefits

For purposes of determining pension benefits, members are classified within one of three categories. Tier 1 grandfathered and Tier 1 non-grandfathered members are those with service credit on file as of July 1, 2008. Tier 2 members are those newly employed and returning refunded members on or after July 1, 2008.

Tier 1 Grandfathered

A Tier 1 grandfathered member is entitled to receive unreduced benefits when three or more years of credited service as a teacher in North Dakota have accumulated, the member is no longer employed as a teacher and the member has reached age 65, or the sum of age and years of service credit equals or exceeds 85. TFFR permits early retirement from ages 55 to 64, with benefits actuarially reduced by 6% per year for every year the member's retirement age is less than 65 years or the date as of which age plus service equal 85. In either case, benefits may not exceed the maximum benefits specified in Section 415 of the Internal Revenue Code.

Pension benefits paid by TFFR are determined by NDCC Section 15-39.1-10. Monthly benefits under TFFR are equal to the three highest annual salaries earned divided by 36 months and multiplied by 2.00% times the number of service credits earned. Retirees may elect payment of benefits in the form of a single life annuity, 100% or 50% joint and survivor annuity, ten or twenty-year term certain annuity, partial lump-sum option or level income with Social Security benefits. Members may also qualify for benefits calculated under other formulas.

Tier 1 Non-grandfathered

A Tier 1 non-grandfathered member is entitled to receive unreduced benefits when three or more years of credited service as a teacher in North Dakota have accumulated, the member is no longer employed as a teacher and the member has reached age 65, or has reached age 60 and the sum of age and years of service credit equals or exceeds 90. TFFR permits early retirement from ages 55 to 64, with benefits actuarially reduced by 8% per year from the earlier of age 60/Rule of 90 or age 65. In either case, benefits may not exceed the maximum benefits specified in Section 415 of the Internal Revenue Code.

Pension benefits paid by TFFR are determined by NDCC Section 15-39.1-10. Monthly benefits under TFFR are equal to the three highest annual salaries earned divided by 36 months and multiplied by 2.00% times the number of service credits earned. Retirees may elect payment of benefits in the form of a single life annuity, 100% or 50% joint and survivor annuity, ten or twenty-year term certain annuity, partial lump-sum option or level income with Social Security benefits. Members may also qualify for benefits calculated under other formulas.

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Notes to the Financial Statements

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Tier 2

A Tier 2 member is entitled to receive unreduced benefits when five or more years of credited service as a teacher in North Dakota have accumulated, the member is no longer employed as a teacher and the member has reached age 65, or has reached age 60 and the sum of age and years of service credit equals or exceeds 90. TFFR permits early retirement from ages 55 to 64, with benefits actuarially reduced by 8% per year from the earlier of age 60/Rule of 90 or age 65. In either case, benefits may not exceed the maximum benefits specified in Section 415 of the Internal Revenue Code.

Pension benefits paid by TFFR are determined by NDCC Section 15-39.1-10. Monthly benefits under TFFR are equal to the five highest annual salaries earned divided by 60 months and multiplied by 2.00% times the number of service credits earned. Retirees may elect payment of benefits in the form of a single life annuity, 100% or 50% joint and survivor annuity, ten or twenty-year term certain annuity, partial lump-sum option or level income with Social Security benefits. Members may also qualify for benefits calculated under other formulas.

Death and Disability Benefits

Death benefits may be paid to a member's designated beneficiary. If a member's death occurs before retirement, the benefit options available are determined by the member's vesting status prior to death. If a member's death occurs after retirement, the death benefit received by the beneficiary (if any) is based on the retirement plan the member selected at retirement.

An active member is eligible to receive disability benefits when: (a) a total disability lasting 12 months or more does not allow the continuation of teaching, (b) the member has accumulated five years of credited service in North Dakota, and (c) the Board of Trustees of TFFR has determined eligibility based upon medical evidence. The amount of the disability benefit is computed by the retirement formula in NDCC Section 15-39.1-10 without consideration of age and uses the member's actual years of credited service. There is no actuarial reduction for reason of disability retirement.

Investment Rate of Return

The annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 7.35% and -6.17% for the years ended June 30, 2023 and 2022, respectively. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Realized Gains and Losses

Realized gains and losses on sales of investments are components of net change in fair value of investments and are computed as described in Note 1. For the years ended June 30, 2023 and 2022, TFFR had net realized gains of \$37,160,466 and \$127,985,911, respectively.

Net Pension Liability

The components of the net pension liability of TFFR at June 30, 2023 and 2022 (expressed in thousands), were as follows:

North Dakota Retirement and Investment Office

Notes to the Financial Statements

June 30, 2023 and 2022

	June 30, 2023	June 30, 2022
Total pension liability	\$ 4,577,220	\$ 4,479,973
Plan fiduciary net position	<u>(3,173,908)</u>	<u>(3,023,920)</u>
Net pension liability (NPL)	<u>\$ 1,403,312</u>	<u>\$ 1,456,053</u>
Plan fiduciary net position as a percentage of the total pension liability	69.3%	67.5%

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of July 1, 2023 and 2022, using the following actuarial assumptions:

Valuation date	July 1, 2023	July 1, 2022
Inflation	2.30%	2.30%
Salary increases	Composed of 3.80% wage inflation, plus step-rate promotional increases for members with less than 30 years of service	3.80% to 14.80%; varying by service, including inflation and productivity
Cost of living adjustments	None	None
Investment rate of return	7.25% net of investment expenses, including inflation	7.25% net of investment expenses, including inflation

For the July 1, 2023 and 2022, valuations, the post-retirement healthy mortality table was 104% of the PubT-2010 Retiree table for retirees and to 95% of the PubT-2010 Contingent Survivor table for beneficiaries, both projected with generational improvement using Scale MP-2019. The disabled mortality table was the PubNS-2010 Non-Safety Disabled Mortality table projected with generational improvement using Scale MP-2019.

The TFFR Board is responsible for establishing investment policy for the fund assets under NDCC 15-39.1-05.2. Benefit payments are projected to occur over a long period of time. This allows TFFR to adopt a long-term investment horizon and asset allocation policy for the management of fund assets. Asset allocation policy is critical because it defines the basic risk and return characteristics of the investment portfolio. Asset allocation targets are established using an asset-liability analysis designed to assist the Board in determining an acceptable volatility target for the fund and an optimal asset allocation policy mix. This asset-liability analysis considers both sides of the plan balance sheet, utilizing both quantitative and qualitative inputs, in order to estimate the potential impact of various asset class mixes on key measures of total plan risk, including the resulting estimated impact of funded status and contribution rates.

The long-term expected rate of return on TFFR investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the TFFR target asset allocation as of July 1, 2023 and 2022 are summarized in the following tables:

North Dakota Retirement and Investment Office

Notes to the Financial Statements

June 30, 2023 and 2022

2023	Target Allocation	Long-Term Expected Real Rate of Return
Global Equity	55.0%	6.2%
Global Fixed Income	26.0%	3.0%
Global Real Assets	18.0%	4.4%
Cash Equivalents	1.0%	0.9%

2022	Target Allocation	Long-Term Expected Real Rate of Return
Global Equity	55.0%	6.6%
Global Fixed Income	26.0%	0.4%
Global Real Assets	18.0%	4.6%
Cash Equivalents	1.0%	-1.1%

As part of the most recent asset/liability study, the total fund real rate of return was upwardly adjusted by 0.50% to reflect a longer investment time horizon than is assumed in the investment consultant's expected returns and to account for above benchmark returns achieved through active management. In order to estimate the nominal rate of return, the real rate of return was adjusted upward by 2.30% for expected inflation.

Discount Rate

The discount rate used to measure the total pension liability was 7.25% as of June 30, 2023 and 2022. The projection of cash flows used to determine the discount rate assumed that member and employer contributions will be made at rates equal to those based on the July 1, 2023 and 2022 Actuarial Valuation Report. For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs of future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, TFFR's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members as of July 1, 2023 and 2022. Therefore, the long-term expected rate of return on TFFR investments was applied to all periods of projected benefit payments to determine the total pension liability as of June 30, 2023 and 2022.

Sensitivity of Net Pension Liability

The following presents the net pension liability of the TFFR employers calculated using the discount rate of 7.25% as of June 30, 2023 and 2022, as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate (expressed in thousands):

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Notes to the Financial Statements

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2023

	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
Employers' net pension liability	\$ 1,953,806	\$ 1,403,312	\$ 946,493

2022

	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
Employers' net pension liability	\$ 2,000,483	\$ 1,456,053	\$ 1,004,517

Note 8 - ND Public Employees Retirement System (NDPERS)

Permanent employees of RIO participate in the pension and other post-employment benefit (OPEB) plans of NDPERS, which is also an agency of the State of North Dakota financial reporting entity and is included in the State of North Dakota's Annual Comprehensive Financial Report. The following brief description of NDPERS is provided for general information purposes only. Participants should refer to NDCC Chapter 54-52 for more complete information.

NDPERS pension (Main System) and OPEB plans are cost-sharing multiple-employer defined benefit plans that cover employees/retirees of the State of North Dakota, its agencies and various participating political subdivisions. NDPERS pension plan provides for pension, death and disability benefits. NDPERS OPEB plan provides a credit toward the monthly health insurance premium of members receiving retirement benefits from the PERS, HPRS and Judges retirement under Chapter 27-17 of the North Dakota Century Code. Effective July 1, 2015, the credit is also available to apply towards monthly premiums under the state dental, vision and long-term care plan and any other health insurance plan. Effective August 1, 2019, the credit is expanded to also include any eligible health, prescription drug plan, dental, vision, and long-term care plan premium expense. The cost to administer the pension plan is financed through the contributions and investment earnings of the plan. The Retiree Health Insurance Credit Fund is advance-funded on an actuarially determined basis.

Responsibility for administration of the NDPERS defined benefit pension plan is assigned to a Board comprised of nine members. The Board consists of a Chairman, who is appointed by the Governor; one member appointed by the Attorney General; one member appointed by the State Health Officer; three members elected by the active membership of the NDPERS system, one member elected by the retired public employees and two members of the legislative assembly appointed by the chairman of the legislative management.

Pension Benefits

Benefits are set by statute. NDPERS has no provisions or policies with respect to automatic and ad hoc post-retirement benefit increases. Members of the Main System are entitled to unreduced monthly pension benefits beginning when the sum of age and years of credited service equal or exceed 85 (Rule of 85), or at normal retirement age (65). For members hired on or after January 1, 2016 the Rule of 85 is replaced with the Rule of 90 with a minimum age of 60. The monthly pension benefit is equal to 2.00% of their average monthly salary, using the highest 36 months out of the last 180 months of service, for each year of service. For members hired on or after January 1, 2020 the 2.00% multiplier was replaced with a 1.75% multiplier. The plan permits early retirement at ages 55-64 with three or more years of service.

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Notes to the Financial Statements

June 30, 2023 and 2022

Members may elect to receive the pension benefits in the form of a single life, joint and survivor, term-certain annuity, or partial lump sum with ongoing annuity. Members may elect to receive the value of their accumulated contributions, plus interest, as a lump sum distribution upon retirement or termination, or they may elect to receive their benefits in the form of an annuity. For each member electing an annuity, total payment will not be less than the members' accumulated contributions plus interest.

Death and Disability Benefits

Death and disability benefits are set by statute. If an active member dies with less than three years of service, a death benefit equal to the value of the member's accumulated contributions, plus interest, is paid to the member's beneficiary. If the member has earned more than three years of credited service, the surviving spouse will be entitled to a single payment refund, life-time monthly payment in an amount equal to 50% of the member's accrued normal retirement benefit, or monthly payments in an amount equal to the member's accrued 100% Joint and Survivor retirement benefit if the member had reached normal retirement age prior to date of death. If the surviving spouse dies before the member's accumulated pension benefits are paid, the balance will be payable to the surviving spouse's beneficiary.

Eligible members, who become totally disabled after a minimum of 180 days of service, receive monthly disability benefits equal to 25% of their final average salary with a minimum benefit of \$100. To qualify under this section, the member has to become disabled during the period of eligible employment and apply for benefits within one year of termination. The definition for disabled is set by the NDPERS in the North Dakota Administrative Code.

Refunds of Member Contributions

Upon termination, if a member is not vested (is not 65 or does not have three years of service credited for the NDPERS) they will receive the accumulated member contributions plus interest, or may elect to receive this amount at a later date. If a member has vested, they have the option of applying for a refund or can remain as a terminated vested participant. If a member terminated and withdrew their accumulated member contributions and is subsequently reemployed, they have the option of repurchasing their previous service.

Member and Employer Contributions

Member and employer contributions paid to NDPERS are set by statute and are established as a percent of salaries and wages. During the 1983-1985 biennium the State of North Dakota implemented the employer pickup provision of the IRS code whereby a portion or all of the required member contributions are made by the employer. RIO, as the employer, is paying 4% of the member contribution. Employer contributions are set by statute.

Contribution rates are established as a percent of covered compensation as follows:

	Member	Employer
Members first enrolled prior to January 1, 2020	7.00%	7.12%
Members first enrolled after January 1, 2020	7.00%	8.26%
Members returning to the DB Plan as a result of Senate Bill 2015	9.00%	7.12%

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Notes to the Financial Statements

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The member's account balance includes the vested employer contributions equal to the member's contributions to an eligible deferred compensation plan. The minimum member contribution is \$25 and the maximum may not exceed the following:

- 1 to 12 months of service – Greater of one percent of monthly salary or \$25
- 13 to 24 months of service – Greater of two percent of monthly salary or \$25
- 25 to 36 months of service – Greater of three percent of monthly salary or \$25
- Longer than 36 months of service – Greater of four percent of monthly salary or \$25

OPEB Benefits

The employer contribution is set by statute at 1.14% of covered compensation. Employees participating in the retirement plan as part-time/temporary members are required to contribute 1.14% of their covered compensation to the Retiree Health Insurance Credit Fund. Employees purchasing previous service credit are also required to make an employee contribution to the Fund. The benefit amount applied each year is shown as "prefunded credit applied" on the Statement of Changes in Plan Net Position for the OPEB trust funds. Beginning January 1, 2020 members first enrolled in the NDPERS main system and the Defined Contribution Plan on or after that date will not be eligible to participate in RHIC. Therefore, RHIC will become for the part a closed plan.

Retiree health insurance credit benefits and death and disability benefits are set by statute. There are no provisions or policies with respect to automatic and ad hoc post-retirement benefit increases. Employees who are receiving monthly retirement benefits, or the spouse of a deceased annuitant receiving a surviving spouse benefit or if the member selected a joint and survivor option are eligible to receive a credit toward their monthly health insurance premium under the state health plan.

The benefits are equal to \$5.00 for each of the employee's, or deceased employee's years of credited service not to exceed the premium in effect for selected coverage. The retiree health insurance credit is also available for early retirement with reduced benefits.

Pension & OPEB Liabilities, Pension & OPEB Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions & OPEB

At June 30, 2023 and 2022, RIO reported a liability of \$4,453,741 and \$1,549,271, respectively, for its proportionate share of the net pension and OPEB liability. These amounts are included in the accrued liabilities in the statements of net position. The net pension and OPEB liability were measured as of June 30, 2022 and 2021, and the total pension and OPEB liability used to calculate the net pension and OPEB liability was determined by an actuarial valuation as of that date. RIO's proportion of the net pension liability was based on RIO's share of covered payroll in the pension and OPEB plans relative to the covered payroll of all participating NDPERS Main System and OPEB employers. At June 30, 2022, RIO's pension plan proportion was 0.150263 percent and as of June 30, 2021, was 0.141582 percent. RIO's OPEB plan proportion was 0.105029 percent as of June 30, 2022 and was 0.132262 percent as of June 30, 2021.

RIO recognized pension and OPEB expense of \$401,259 and \$92,941 for the years ended June 30, 2023 and 2022, respectively. At June 30, 2023 and 2022, RIO reported deferred outflows of resources and deferred inflows of resources related to pensions and OPEB from the following sources:

North Dakota Retirement and Investment Office

Notes to the Financial Statements

June 30, 2023 and 2022

	Deferred Outflows of Resources		Deferred Inflows of Resources	
	2023	2022	2023	2022
Differences between expected and actual experience	\$ 25,563	\$ 29,704	\$ 83,750	\$ 152,633
Changes in assumptions	2,619,766	1,644,715	1,604,425	2,129,514
Net differences between projected and actual earnings on plan investments	175,369	-	-	572,522
Changes in proportion and differences between employer contributions and proportionate share of contributions	139,323	32,684	81,577	108,916
Employer contributions subsequent to the measurement date	189,018	132,556	-	-
Total	\$ 3,149,039	\$ 1,839,659	\$ 1,769,752	\$ 2,963,585

Deferred outflows of resources related to pensions and OPEB resulting from employer contributions subsequent to the measurement date in the amount of \$189,018 will be recognized as a reduction of the net pension liability in the year ended June 30, 2024.

Other amounts reported as deferred outflows of resources and (deferred inflows of resources) related to pensions and OPEB will be recognized in pension expense as follows:

Year Ended June 30	
2024	\$ 318,283
2025	380,201
2026	61,259
2027	430,526
2028	-
2029	-
	<u>\$ 1,190,269</u>

Actuarial assumptions

The total pension and OPEB liabilities in the July 1, 2022 and 2021 actuarial valuation were determined using the following actuarial assumptions, applied to all periods included in the measurement:

2022 – Pension Plan

Inflation	2.25%
Salary Increase (Payroll Growth)	3.5% to 17.75%, including inflation
Investment Rate of Return	5.10%, net of investment expense
Cost-of-living Adjustments	None

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Notes to the Financial Statements

June 30, 2023 and 2022

2021 – Pension Plan

Inflation	2.25%
Salary Increase (Payroll Growth)	3.5% to 17.75%, including inflation
Investment Rate of Return	7.00%, net of investment expense
Cost-of-living Adjustments	None

For active members, inactive members and healthy retirees in both 2022 and 2021, mortality rates were based on the Sex-distinct Pub-2010 table for General Employees, with scaling based on actual experience. Respective corresponding tables were used for healthy retirees, disabled retirees, and active members. Mortality rates are projected from 2010 using the MP-2019 scale.

The investment return assumption was updated from 7.00% to 6.50% beginning with the actuarial valuation as of July 1, 2022. All other actuarial assumptions used in the actuarial valuation as of July 1, 2022 were based on an experience review for the period from July 1, 2014 to July 1, 2019, and were adopted for first use commencing with the actuarial valuation as of July 1, 2020.

2022 – OPEB Plan

Inflation	2.25%
Salary Increase (Payroll Growth)	Not applicable.
Investment Rate of Return	5.75%, net of investment expense
Cost of Living Adjustments	None

2021 – OPEB Plan

Inflation	2.25%
Salary Increase (Payroll Growth)	Not applicable.
Investment Rate of Return	6.50%, net of investment expense
Cost of Living Adjustments	None

For active members, inactive members and healthy retirees in both 2022 and 2021, mortality rates were based on the MortalityPub-2010 Healthy Retiree Mortality table (for General Employees), sex-distinct, with rates multiplied by 103% for males and 101% for females. Pub-2010 Disabled Retiree Mortality table (for General Employees), sex-distinct, with rates multiplied by 117% for males and 112% for females. Pub-2010 Employee Mortality table (for General Employees), sex-distinct, with rates multiplied by 92% for both males and females. Mortality rates are projected from 2010 using the MP-2019 scale. The investment return assumption was updated from 6.50% to 5.75% beginning with the actuarial valuation as of July 1, 2022. All actuarial assumptions and the actuarial cost method are unchanged from the last actuarial valuation as of July 1, 2021.

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Notes to the Financial Statements

June 30, 2023 and 2022

Beginning January 1, 2020, members first enrolled in the NDPERS Main System and the Defined Contribution Plan on or after that date will not be eligible to participate in RHIC. Therefore, RHIC will become for the most part a closed plan. There have been no other changes in plan provisions since the previous actuarial valuation as of July 1, 2020.

The long-term expected rate of return on pension and OPEB plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the plans' target asset allocations are summarized in the following table:

2022 - Pension Plan

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Global Equity	58%	6.4%
Global Fixed Income	23%	0.3%
Global Real Assets	19%	4.6%

2021 - Pension Plan

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Global Equity	58%	6.7%
Global Fixed Income	23%	0.7%
Global Real Assets	19%	4.8%

2022 - OPEB Plan

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Large Cap Domestic Equity	33%	5.6%
Small Cap Domestic Equity	6%	6.5%
International Equity	26%	6.0%
Core-Plus Fixed Income	35%	0.2%

North Dakota Retirement and Investment Office

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June 30, 2023 and 2022

2021 - OPEB Plan

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Large Cap Domestic Equity	33%	5.9%
Small Cap Domestic Equity	6%	6.8%
International Equity	26%	6.3%
Core-Plus Fixed Income	35%	0.5%

Discount rate

For pension plans, GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the System to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The current employer and employee fixed rate contributions are assumed to be made in each future year. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. In years where assets are not projected to be sufficient to meet benefit payments, which is the case for the PERS plan, the use of a municipal bond rate is required.

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate (SDR) that reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) a tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For 2022, the expected rate of return on pension plan investments is 6.50%; the municipal bond rate is 3.69% (based on the most recent date available on or before the measurement date of the "20-year Municipal GO Index" from Fidelity); and the resulting Single Discount Rate is 5.10%.

For 2021, the expected rate of return on pension plan investments is 7.00%; the municipal bond rate is 1.92% (based on the most recent date available on or before the measurement date of the "20-year Municipal GO Index" from Fidelity); and the resulting Single Discount Rate is 7.00%.

The discount rate used to measure the total OPEB liability for 2022 was 5.39% and for 2021 was 6.50%. The projection of cash flows used to determine the discount rate assumed plan member and statutory/Board approved employer contributions will be made at rates equal to those based on the July 1, 2022 and 2020 OPEB actuarial valuation reports. For this purpose, only employer contributions that are intended to fund benefits of current OPEB members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs of future plan members and their beneficiaries are not included. Based on those assumptions, the OPEB fiduciary net position was projected to be sufficient to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB investments was applied to all periods of projected benefit payments to determine the total OPEB liability for both years.

North Dakota Retirement and Investment Office

Notes to the Financial Statements

June 30, 2023 and 2022

Sensitivity of the Employer's proportionate share of the net pension and OPEB liability to changes in the discount rate

The following presents RIO's proportionate share of the net pension and OPEB liability calculated using the current discount rate, as well as what the RIO's proportionate share of the net pension and OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

2023

	1% Decrease (4.10%)	Current Discount Rate (5.10%)	1% Increase (6.10%)
RIO's net pension liability	\$5,712,233	\$ 4,327,674	\$3,191,000

	1% Decrease (4.39%)	Current Discount Rate (5.39%)	1% Increase (6.39%)
RIO's net OPEB liability	160,917	126,067	96,812

2022

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
RIO's net pension liability	\$2,346,875	\$ 1,475,710	\$ 750,328

	1% Decrease (5.50%)	Current Discount Rate (6.50%)	1% Increase (7.50%)
RIO's net OPEB liability	109,100	73,561	43,489

Sensitivity for Healthcare Cost Trend Rates

The benefit provided by the North Dakota retiree health insurance credit fund is a fixed dollar subsidy and is not affected by the healthcare cost trend. Therefore, a sensitivity analysis was not performed.

Pension and OPEB plan fiduciary net position

Detailed information about the pension and OPEB plans' fiduciary net position is available in the separately issued NDPERS Annual Comprehensive Financial Report. This report can be accessed on the NDPERS website at <https://www.ndpers.nd.gov/about/financial-actuarial-reports/annual-report-archive>

Note 9 - Related Parties

As stated in Note 1, RIO is an agency of the State of North Dakota; as such, other agencies of the state are related parties.

REQUIRED SUPPLEMENTARY INFORMATION

North Dakota Retirement and Investment Office

Required Supplementary Information

For Fiscal Year Ended June 30, 2023

Schedule of Changes in Net Pension Liability and Related Ratios North Dakota Teachers' Fund for Retirement Last 10 Fiscal Years (Dollars in thousands)

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total pension liability										
Service cost	\$ 96,101	92,336	\$ 87,088	\$ 80,591	\$ 77,756	\$ 78,041	\$ 75,476	\$ 68,239	\$ 60,618	\$ 56,752
Interest	318,879	311,929	300,698	306,791	296,876	287,375	276,412	265,440	249,064	237,821
Changes of benefit terms	-	-	-	-	-	-	-	-	-	-
Differences between expected and actual experience	(55,451)	(8,505)	8,366	(20,732)	(23,495)	(27,939)	(10,749)	(8,093)	2,209	9,347
Changes of assumptions	-	-	-	51,813	-	-	-	-	171,325	-
Benefit payments, including refunds of member contributions	(262,282)	(251,847)	(241,128)	(230,851)	(221,228)	(207,979)	(196,516)	(185,969)	(172,239)	(162,259)
Net change in total pension liability	97,247	143,913	155,024	187,612	129,909	129,498	144,623	139,617	310,977	141,661
Total pension liability - beginning	4,479,973	4,336,060	4,181,036	3,993,424	3,863,515	3,734,017	3,589,394	3,449,777	3,138,800	2,997,139
Total pension liability - ending (a)	\$4,577,220	4,479,973	\$4,336,060	\$4,181,036	\$3,993,424	\$3,863,515	\$3,734,017	\$3,589,394	\$3,449,777	\$3,138,800
Plan fiduciary net position										
Contributions - employer	\$ 102,308	100,331	\$ 98,264	\$ 93,032	\$ 89,445	\$ 86,676	\$ 86,059	\$ 82,840	\$ 78,422	\$ 62,355
Contributions - member	94,284	92,462	90,557	85,735	82,429	79,878	79,309	76,343	72,268	56,555
Contributions - purchased service credit	1,109	2,017	2,559	2,175	1,917	2,181	2,553	2,768	1,601	2,034
Contributions - other	(10)	25	126	159	159	194	236	45	172	48
Net investment income	217,471	(198,881)	684,173	86,206	135,043	211,345	266,688	8,239	73,205	294,246
Benefit payments, including refunds of member contributions	(262,282)	(251,847)	(241,128)	(230,851)	(221,228)	(207,979)	(196,516)	(185,969)	(172,239)	(162,259)
Administrative expenses	(2,891)	(2,592)	(2,678)	(2,095)	(2,251)	(2,129)	(2,173)	(1,852)	(1,923)	(1,586)
Net change in plan fiduciary net position	149,989	(258,485)	631,873	34,361	85,514	170,166	236,156	(17,586)	51,506	251,393
Plan fiduciary net position - beginning *	3,023,920	3,282,405	2,650,532	2,616,171	2,530,657	2,360,491	2,124,335	2,141,921	2,090,415	1,839,584
Plan fiduciary net position - ending (b)	\$3,173,909	3,023,920	\$3,282,405	\$2,650,532	\$2,616,171	\$2,530,657	\$2,360,491	\$2,124,335	\$2,141,921	\$2,090,977
Plan's net pension liability - ending (a) - (b)	\$1,403,311	1,456,053	\$1,053,655	\$1,530,504	\$1,377,253	\$1,332,858	\$1,373,526	\$1,465,059	\$1,307,856	\$1,047,823
Plan fiduciary net position as a percentage of the total pension liability	69.3%	67.5%	75.7%	63.4%	65.5%	65.5%	63.2%	59.2%	62.1%	66.6%
Covered payroll	802,413	786,912	770,700	729,661	701,528	679,809	674,971	649,725	615,105	580,053
Plan's net pension liability as a percentage of covered payroll	174.9%	185.0%	136.7%	209.8%	196.3%	196.1%	203.5%	225.5%	212.6%	180.6%

Notes to Schedule:

* Restated in 2015 due to GASB 68 implementation.

Changes of assumptions:

Beginning January 1, 2020, members first enrolled in the NDPERS Main System and the Defined Contribution Plan on or after that date will not be eligible to participate in RHIC. Therefore, RHIC will become for the most part a closed plan. There have been no other changes in plan provisions since the previous actuarial valuation as of July 1, 2020.

North Dakota Retirement and Investment Office

Required Supplementary Information

For Fiscal Year Ended June 30, 2023

Schedule of Employer Contributions North Dakota Teachers' Fund for Retirement Last 10 Fiscal Years (Dollars in thousands)

Fiscal Year	Actuarially determined contribution	Contributions in relation to the actuarially determined contribution	Contribution deficiency (excess)	Covered payroll	Contributions as a percentage of covered payroll
2014	\$ 59,513	\$ 62,355	\$ (2,842)	\$ 580,053	10.75%
2015	71,168	78,422	(7,254)	615,105	12.75%
2016	84,724	82,840	1,884	649,725	12.75%
2017	89,231	86,059	3,172	674,971	12.75%
2018	88,307	86,676	1,631	679,809	12.75%
2019	90,778	89,445	1,333	701,528	12.75%
2020	93,688	93,032	656	729,661	12.75%
2021	101,655	98,264	3,391	770,700	12.75%
2022	97,341	100,331	(2,990)	786,912	12.75%
2023	97,252	102,308	(5,056)	802,413	12.75%

Notes to Schedule

Valuation Date: Actuarially determined contributions for each fiscal year are based on the actuarial valuation as of the beginning of the year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry age
Amortization method	Level percentage of payroll, closed
Remaining amortization period	20 years
Asset valuation method	5-year smoothed market
Inflation	2.30%; decreased from 2.75% prior to 7/1/2020 and from 3% prior to 7/1/2015.
Salary increases	3.80% - 14.80% including inflation and productivity; 4.25% - 14.5% prior to 7/1/2020; 4.5% - 14.75% prior to 7/1/2015.
Investment rate of return	7.25%, net of investment expenses, including inflation; rate was decreased from 7.75% beginning 7/1/2020 and decreased from 8% beginning 7/1/2015.
Retirement age	In the 2020 and 2015 valuations, rates of retirement were changed to better reflect anticipated future experience.
Mortality	In the 2020 valuation, the PubT-2010 pre-retirement, retiree and contingent survivor tables were adopted and for disabled members, PubNS-2010 tables were adopted; all with generational improvement. In the 2015 valuation, assumed life expectancies were adjusted as a result of adopting the RP-2014 mortality tables with generational improvement. In prior years, those assumptions were based on percentages of GRS post termination non-disabled tables and RP-2000 disabled-life tables.

**Schedule of Investment Returns
North Dakota Teachers' Fund for Retirement
Last 10 Fiscal Years**

ANNUAL MONEY-WEIGHTED RATE OF RETURN, NET OF INVESTMENT EXPENSES

<u>2023</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
7.35%	-6.17%	26.36%	3.37%	5.46%	9.15%	12.81%	0.39%	3.56%	16.35%

North Dakota Retirement and Investment Office
 Required Supplementary Information
 For Fiscal Year Ended June 30, 2023

**Schedule of Employer's Share of Net Pension and OPEB Liability
 ND Public Employees Retirement System
 Last 10 Fiscal Years*
 (Dollars in thousands)**

	2023	2022	2021	2020	2019	2018	2017	2016	2015
RIO's proportion of NDPERS net pension liability (asset)	0.150263%	0.141582%	0.140747%	0.151523%	0.153507%	0.156317%	0.152969%	0.145546%	0.121849%
RIO's proportion of NDPERS net OPEB liability (asset)	0.105029%	0.132262%	0.122537%	0.141245%	0.144121%	0.147503%			
RIO's proportionate share of NDPERS net pension liability (asset)	\$ 4,328	\$1,475.71	\$ 4,428	\$ 1,776	\$ 2,591	\$ 2,513	\$ 1,491	\$ 990	\$ 773
RIO's proportionate share of NDPERS net OPEB liability (asset)	126	74	103	113	114	117			
RIO's covered payroll	\$ 1,605	\$ 1,843	\$ 1,631	\$ 1,584	\$ 1,567	\$ 1,596	\$ 1,507	\$ 1,377	\$ 1,026
RIO's proportionate share of NDPERS net pension liability (asset) as a percentage of its covered payroll	269.64%	80.071%	271.49%	112.12%	165.35%	157.46%	98.94%	71.90%	75.34%
RIO's proportionate share of NDPERS net OPEB liability (asset) as a percentage of its covered payroll	7.85%	3.99%	6.32%	7.16%	7.28%	7.31%			
NDPERS Plan fiduciary net position as a percentage of the total pension liability	54.47%	78.26%	48.91%	71.66%	62.80%	61.98%	70.46%	77.15%	77.70%
NDPERS Plan fiduciary net position as a percentage of the total OPEB liability	56.28%	76.63%	63.38%	63.13%	61.89%	59.78%			

*Complete data for this schedule is not available prior to 2015 for pension liability and prior to 2018 for OPEB liability.
 Amounts presented for each fiscal year have a measurement date of the previous fiscal year end.

**Schedule of Employer Pension and OPEB Contributions
 ND Public Employees Retirement System
 Last 10 Years*
 (Dollars in thousands)**

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
RIO's Statutorily required pension contribution	\$ 174	\$ 119	\$ 131	\$ 116	\$ 113	\$ 112	\$ 114	\$ 107	\$ 98	\$ 73
RIO's Statutorily required OPEB contributions	15	14	21	19	18	18	18			
RIO's pension contributions in relation to the statutory required contribution	174	119	131	116	113	112	114	107	98	73
RIO's OPEB contributions in relation to the statutory required contribution	15	14	21	19	18	18	18			
Contribution deficiency (excess)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RIO's Covered payroll	\$ 2,286	\$ 1,605	\$ 1,843	\$ 1,631	\$ 1,584	\$ 1,567	\$ 1,596	\$ 1,507	\$ 1,377	\$ 1,026
RIO's pension contributions as a percentage of covered payroll	7.62%	7.40%	7.12%	7.12%	7.12%	7.12%	7.12%	7.12%	7.12%	7.12%
RIO's OPEB contributions as a percentage of covered payroll	0.65%	0.86%	1.14%	1.14%	1.14%	1.14%	1.14%			

*Complete data for this schedule is not available prior to 2017 for OPEB contributions.

North Dakota Retirement and Investment Office
Combining State of Net Position – Investment Trust Funds – Fiduciary Funds
June 30, 2023 (with Summarized Comparative Totals for 2022)

	Pension Pool Participants					Insurance Pool Participants							
	Public Employees Retirement System	Bismarck City Employee Pension Plan	Bismarck City Police Pension Plan	City of Grand Forks Employee Pension Plan	City of Grand Forks Park District	Workforce Safety & Insurance	State Fire & Tornado	State Bonding	Petroleum Tank Release Comp. Fund	Insurance Regulatory Trust Fund	Cultural Endowment Fund	Risk Mgmt	Risk Workers' Comp
Assets:													
Investments													
Global equities	\$2,309,920,873	\$56,694,946	\$25,974,153	\$44,892,460	\$4,754,913	\$427,18,480	\$6,392,061	\$ -	\$ -	\$2,178,234	\$305,143	\$1,134,484	\$987,592
Global fixed income	843,518,099	4,145,764	14,591,063	17,954,865	2,198,559	1246,237,468	9,958,754	2,024,473	2,932,084	2,525,462	205,470	2,412,420	1600,677
Global real assets	746,170,848	24,555,852	10,155,312	11,183,611	1,738,188	362,515,676	-	-	-	-	27,678	-	-
Cash equivalents	4,752,310	387,960	154,680	794,932	26,054	20,443,936	1,795,189	1,625,354	2,897,618	2,447,214	16,166	684,257	830,234
Total investments	3,904,362,130	123,096,403	50,875,208	74,825,868	8,717,714	2,056,315,560	18,146,004	3,649,827	5,829,702	7,150,910	554,457	4,231,161	3,418,503
Invested sec lending collateral	27,467,155	739,665	313,063	564,627	94,155	10,889,438	93,534	16,407	23,528	25,891	2,479	22,465	15,121
Investment income receivable	8,178,945	247,758	96,895	98,181	13,626	10,393,886	142,649	26,664	57,380	10,016	308	49,650	4,850
Operating Cash	219,547	-	-	-	-	148,840	2,040	1,238	1,115	962	295	1,260	1,247
Miscellaneous receivable	8,983	-	-	-	-	4,869	45	9	14	6	1	9	6
Due from other state agencies	156	-	-	-	-	84	1	-	-	-	-	-	-
Total assets	3,940,236,916	124,083,826	51,285,166	75,488,676	8,825,495	2,077,752,677	18,384,273	3,694,145	5,911,739	7,187,785	557,540	4,304,545	3,439,727
Deferred outflows of resources													
Related to pensions	365,147	-	-	-	-	219,627	2,344	385	685	220	55	495	448
Liabilities:													
Investment expenses payable	2,278,387	68,907	28,791	39,519	5,090	1,075,535	11,053	1,341	1,959	3,127	366	2,467	1,803
Securities lending collateral	27,467,155	739,665	313,063	564,627	94,155	10,889,438	93,534	16,407	23,528	25,891	2,479	22,465	15,121
Accounts payable	43,883	-	-	-	-	21,787	208	36	59	29	6	36	25
Accrued expenses	582,684	-	-	-	-	364,888	4,398	663	1,261	305	89	931	811
Miscellaneous payable	-	8,382	3,464	4,988	603	-	-	-	-	-	-	-	-
Due to other state funds	-	-	-	-	-	-	-	-	-	-	-	-	-
Due to other state agencies	1,500	-	-	-	-	813	8	1	2	1	-	1	1
Total liabilities	30,373,609	816,954	345,318	609,134	99,848	12,352,461	109,201	18,448	26,809	29,353	2,940	25,900	17,761
Deferred inflows of resources													
Related to pensions	224,825	-	-	-	-	136,438	1,454	235	393	186	33	310	310
Fiduciary net position held in trust for external investment pool participants	\$ 3,910,003,629	\$ 123,266,872	\$ 50,939,848	\$ 74,879,542	\$ 8,725,647	\$ 2,065,483,405	\$ 18,275,962	\$ 3,675,847	\$ 5,885,222	\$ 7,158,466	\$ 554,622	\$ 4,278,830	\$ 3,422,104
Each participant unit is valued at \$ 100													
Participant units outstanding	3,910,003,629	123,266,872	50,939,848	74,879,542	8,725,647	2,065,483,405	18,275,962	3,675,847	5,885,222	7,158,466	554,622	4,278,830	3,422,104

North Dakota Retirement and Investment Office
 Combining Statement of Net Position – Investment Trust Funds – Fiduciary Funds
 June 30, 2023 (with Summarized Comparative Totals for 2022)

Insurance Pool Participants												Individual Investment Accounts				Totals	
ND Veterans' Cemetery Trust Fund	ND Ass'n. of Counties Fund	PERS Group Insurance	Budget Stabilization Fund	City of Bismarck Deferred Sick Leave	City of Fargo Fargo Dome Fund	State Board of Medicine	Lewis & Clark Interpretive Center Endowment	Arts Across the Prairie Maintenance Endowment	Attorney General Settlement Fund	ND University System Capital Building Fund	Legacy Fund	Job Service of North Dakota	PERS Retiree Health Credit Fund	2023	2022		
\$227,110	\$2,530,071	\$ -	\$ -	\$235,195	\$213,992	\$875,104	\$295,493	\$748,300	\$ -	\$ -	\$4,600,838.59	\$16,756,911	\$109,976,710	\$7,634,566,673	\$6,377,122,880		
67,323	4,477,988	55,676,252	732,412,672	509,793	6,619,424	2,158,259	539,418	317,029	1,794,387	1,038,407	2,993,674,211	66,225,503	55,046,287	6,181,263,992	5,971,871,760		
67,863	-	-	-	-	4,241,311	193,171	-	-	-	-	1,332,051,598	-	-	2,492,901,108	2,524,055,925		
1,339	210,006	2,858,504	2,556,911	37,900	46,716	9,389	7,856	3,204	17,308	9,630	47,673,839	565,354	96,387	9,132,024	14,203,723		
453,635	7,218,065	58,534,756	734,969,583	782,888	42,597,372	3,235,923	842,767	1,068,533	181,1695	1,048,037	8,974,238,167	83,547,768	165,119,384	16,336,642,020	14,987,254,288		
1,743	42,409	523,807	6,906,319	4,555	183,941	19,552	5,069	4,058	16,876	9,760	46,918,698	-	-	94,904,315	127,624,822		
213	5,023	241,098	4,873,505	1,837	55,868	1,455	340	(7)	7,220	3,610	30,404,994	592	901	54,917,457	52,010,441		
-	-	-	53,848	-	-	-	-	4,553	-	-	432,035	-	-	866,980	426,172		
-	-	-	1,726	-	-	-	-	2	-	-	21,333	-	-	37,003	26,616		
-	-	-	30	-	-	-	-	-	-	-	370	-	-	641	457		
455,591	7,265,497	59,299,661	746,805,011	789,280	42,837,181	3,256,930	848,176	1,077,139	1,835,791	1,061,407	9,052,015,597	83,548,360	165,120,285	16,487,368,416	15,167,342,796		
-	-	-	52,999	-	-	-	-	51	-	-	791,196	-	-	1,433,652	726,471		
254	4,549	25,513	334,488	486	30,679	1,827	518	641	831	498	4,450,231	12,284	234,613	8,735,757	4,862,595		
1,743	42,409	523,807	6,906,319	4,555	183,941	19,552	5,069	4,058	16,876	9,760	46,918,698	-	-	94,904,315	127,624,822		
-	-	-	7,124	-	-	-	-	13	-	-	99,804	-	-	173,010	245,515		
-	-	-	84,024	-	-	-	-	124	-	-	1,180,356	-	-	2,220,534	524,250		
166	491	3,997	-	250	2,959	250	250	-	250	250	-	5,739	10,882	42,921	32,737		
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	288	-	-	-	-	-	-	-	3,562	-	-	6,177	6,698		
2,163	47,449	553,317	7,332,243	5,291	217,579	21,629	5,837	4,836	17,957	10,508	52,652,651	138,023	245,495	106,082,714	133,296,617		
-	-	-	43,369	-	-	-	-	(42)	-	-	415,222	-	-	822,733	1,465,298		
\$ 453,428	\$ 7,218,048	\$ 58,746,344	\$ 739,482,398	\$ 783,989	\$ 42,619,602	\$ 3,235,301	\$ 842,339	\$ 1,072,396	\$ 1,817,834	\$ 1,050,899	\$ 8,999,738,920	\$ 83,410,337	\$ 164,874,790	\$ 16,381,896,621	\$ 15,033,307,352		
453,428	7,218,048	58,746,344	739,482,398	783,989	42,619,602	3,235,301	842,339	1,072,396	1,817,834	1,050,899	8,999,738,920	83,410,337	164,874,790	16,381,896,621	15,033,307,352		

North Dakota Retirement and Investment Office
Combining Statement of Changes in Net Position – Investment Trust Funds – Fiduciary Funds
Year Ended June 30, 2023 (with Summarized Comparative Totals for 2022)

	Pension Pool Participants					Insurance Pool Participants							
	Public Employees Retirement System	Bismarck City Employee Pension Plan	Bismarck City Police Pension Plan	City of Grand Forks Employee Pension Plan	City of Grand Forks Park District Pension Plan	Workforce Safety & Insurance	State Fire & Tornado	State Bonding	Petroleum Tank Release Comp. Fund	Insurance Regulatory Trust Fund	Cultural Endowment Fund	Risk Mgmt Risk Mgmt	Risk Workers' Comp
Additions:													
Investment income:													
Net change in fair value of investments	\$ 241403,575	\$ 6,053,763	\$ 2,917,329	\$ 5,742,561	\$ 399,440	\$ 7,166,800	\$ 523,707	\$ (46,632)	\$ (68,245)	\$ (78,720)	\$ 36,774	\$ 16,177	\$ 96,622
Interest, dividends and other income	58,349,078	2,004,856	774,231	1,032,204	178,982	5,106,791	476,014	117,093	194,384	104,345	11,205	95,197	70,271
	299,752,653	8,058,619	3,691,560	6,845,765	578,422	58,227,591	999,721	70,461	126,139	25,625	47,979	256,874	166,893
Less investment expenses	10,041,324	318,932	134,217	198,133	26,024	3,911,819	35,305	2,866	4,246	6,394	1,379	6,875	5,677
Net investment income	289,711,329	7,739,687	3,557,343	6,647,632	552,098	54,315,772	964,416	67,595	121,893	19,231	46,600	249,999	161,216
Securities lending activity:													
Securities lending income	219,530	5,820	2,419	4,434	944	150,760	1,663	179	267	220	52	347	280
Less Securities lending expenses	(43,883)	(1,165)	(484)	(887)	(168)	(32,349)	(352)	(40)	(60)	(45)	(11)	(75)	(59)
Net securities lending income	175,647	4,655	1,935	3,547	776	118,411	1,311	139	207	175	41	272	221
Purchase of units (\$1 per unit)	-	-	-	3,320,839	290,583	4,000,000	7,149,357	-	-	5,995,594	-	500,000	750,000
Total Additions	289,886,976	7,744,342	3,559,278	9,972,018	843,437	58,434,183	8,115,084	67,734	122,100	6,015,000	46,641	750,271	911,437
Deductions:													
Administrative Expenses	761,904	-	-	-	-	413,267	3,853	1,069	1,302	985	773	1,072	983
Redemption of units (\$1 per unit)	76,910,000	3,000,000	750,000	7,939,727	729,691	47,000,000	8,860,604	-	150,000	5,476,441	12,000	450,000	750,000
Total Deductions	77,671,904	3,000,000	750,000	7,939,727	729,691	47,413,267	8,864,457	1,069	151,302	5,477,426	12,773	451,072	750,983
Change in fiduciary net position	212,215,072	4,744,342	2,809,278	2,032,291	113,746	11,020,916	(749,373)	66,665	(29,202)	537,574	33,868	299,199	160,454
Fiduciary net position:													
Beginning of year	3,697,788,557	18,522,530	48,130,570	72,847,251	8,611,901	2,054,462,489	19,025,335	3,609,182	5,914,424	6,620,892	520,754	3,979,631	3,261,650
End of year	\$ 3,910,003,629	\$ 123,266,872	\$ 50,939,848	\$ 74,879,542	\$ 8,725,647	\$ 2,065,483,405	\$ 18,275,962	\$ 3,675,847	\$ 5,885,222	\$ 7,158,466	\$ 554,622	\$ 4,278,830	\$ 3,422,104

North Dakota Retirement and Investment Office
 Combining Statement of Changes in Net Position – Investment Trust Funds – Fiduciary Funds
 Year Ended June 30, 2023 (with Summarized Comparative Totals for 2022)

Insurance Pool Participants													Individual Investment Accounts				Totals	
ND Veterans' Cemetery Trust Fund	ND Ass'n of Counties Fund	PERS Group Insurance	Budget Stabilization Fund	City of Bismarck Deferred Sick Leave	City of Fargo Fargo Dome Fund	State Board of Medicine	Lewis & Clark Interpretive Center Endowment	Arts Across the Prairie Maintenance Endowment	Attorney General Settlement Fund	ND University System Capital Building Fund	Job Service of North Dakota	PERS Retiree Health Credit Fund	2023	2022				
\$ 24,742	\$ 268,360	\$ 209,735	\$ (170,156)	\$ 22,743	\$ 2,637,840	\$ 52,879	\$ 29,312	\$ 63,852	\$ (5,943)	\$ (3,375)	\$ 539,977,359	\$ (556,475)	\$ 12,315,155	\$ 817,632,974	\$ (172,081,517)			
8,352	166,512	2,079,724	24,831,533	18,896	821,064	74,634	19,125	10,423	79,745	53,041	160,995,552	3,323,785	4,135,974	311,158,011	307,545,995			
33,094	434,872	2,289,459	23,129,972	41,639	3,458,904	27,513	48,437	74,275	63,802	49,666	700,972,911	2,767,310	16,451,229	1,128,790,985	(144,535,522)			
1,635	14,828	77,602	896,969	2,394	109,475	7,058	2,557	1,431	3,510	2,584	18,242,103	280,428	484,757	34,820,522	32,154,613			
31,459	420,044	2,211,857	22,233,003	39,245	3,349,429	120,455	45,880	72,844	60,292	47,082	682,730,808	2,486,882	15,966,372	1,093,970,463	(1,446,690,135)			
35	643	3,074	44,408	67	3,829	256	72	54	138	93	631,104	-	-	1,070,688	806,990			
(9)	(136)	(63)	(8,876)	(5)	(791)	(56)	(15)	(11)	(28)	(18)	(126,55)	-	-	(216,321)	(113,10)			
26	507	2,461	35,532	52	3,038	200	57	43	110	75	504,949	-	-	854,367	645,680			
-	-	190,611,521	-	-	-	365,625	-	1,000,000	-	7,580	858,723,028	-	4,693,500	1,077,407,627	918,708,674			
31,485	420,551	192,825,839	22,268,535	39,297	3,352,467	486,280	45,937	1,072,887	60,402	54,737	154,195,875	2,486,882	20,659,872	2,172,232,457	(527,335,781)			
-	-	-	145,362	-	-	-	-	491	-	-	1,730,720	-	-	3,061,781	1,983,025			
-	-	166,200,000	-	-	750,000	-	-	-	1,196,784	606,064	486,568,637	5,251,459	7,980,000	820,581,407	328,730,469			
-	-	166,200,000	145,362	-	750,000	-	-	491	1,196,784	606,064	488,299,357	5,251,459	7,980,000	823,643,188	330,713,494			
31,485	420,551	26,625,839	22,123,173	39,297	2,602,467	486,280	45,937	1,072,396	(118,382)	(55,1327)	1,053,659,428	(2,764,577)	2,679,872	1,348,589,269	(858,049,275)			
42,194	6,797,497	32,120,505	717,359,225	744,692	40,017,135	2,749,021	796,402	796,402	2,954,216	1,602,226	7,946,079,492	86,174,914	152,194,918	15,033,307,352	15,891,356,627			
\$ 453,428	\$ 7,218,048	\$ 58,746,344	\$ 739,482,398	\$ 783,989	\$ 42,619,602	\$ 3,235,301	\$ 842,339	\$ 1,868,798	\$ 1817,834	\$ 1,050,899	\$ 8,999,738,920	\$ 83,410,337	\$ 164,874,790	\$ 16,381,896,621	\$ 15,033,307,352			

North Dakota Retirement and Investment Office
Pension and Investment Trust Funds – Schedule of Administrative Expenses
Years Ended June 30, 2023 and 2022

	Pension Trust		Investment Trust	
	2023	2022	2023	2022
Salaries and wages:				
Salaries and wages	\$ 987,936	\$ 715,193	\$ 1,655,919	\$1,029,330
Fringe benefits	576,853	266,732	765,024	345,578
Total salaries and wages	<u>1,564,789</u>	<u>981,925</u>	<u>2,420,943</u>	<u>1,374,908</u>
Operating expenses:				
Travel	33,818	11,262	31,330	33,400
Supplies	4,078	2,868	2,280	2,205
Postage and Mailing Services	19,676	23,141	2,676	2,684
Printing	9,086	7,278	1,153	377
Small Office Equipment and Furniture	11,556	411	15,229	229
Insurance	571	627	669	565
Rent/Lease of Building Space	50,507	60,273	44,558	48,998
Repairs	103	343	127	311
Information Technology & Communications	219,140	731,795	677,924	607,010
Professional Development	29,079	14,024	16,859	6,683
Operating Fees and Services	30,970	21,318	78,535	36,827
Professional Fees and Services	82,890	23,456	78,683	82,485
Consultant Services	449,274	433,910	76,326	64,702
Total operating expenses	<u>940,748</u>	<u>1,330,706</u>	<u>1,026,349</u>	<u>886,476</u>
Pension trust portion of investment program expenses	385,510	278,358	(385,510)	(278,358)
Depreciation	-	1,350	-	-
Total administrative expenses	<u>2,891,047</u>	<u>2,592,339</u>	<u>3,061,781</u>	<u>1,983,025</u>
Capital assets purchased	<u>1,899,328</u>	<u>680,999</u>	<u>-</u>	<u>-</u>
Less - nonappropriated items:				
Consultant Services	193,110	235,531	76,326	64,702
Other operating fees paid under continuing appropriation	156,181	112,952	775,741	542,265
Depreciation	-	1,350	-	-
Retainage Payable	170,367	29,876	-	-
Accrual adjustments to employee benefits	231,833	6,799	268,569	33,727
Total nonappropriated items	<u>751,491</u>	<u>386,508</u>	<u>1,120,636</u>	<u>640,694</u>
Total appropriated administrative expenses	<u>\$4,038,884</u>	<u>\$2,886,830</u>	<u>\$ 1,941,146</u>	<u>\$1,342,332</u>

The accompanying notes are an integral part of these statements.

North Dakota Retirement and Investment Office
Pension and Investment Trust Funds – Schedule of Consultant Expenses
Years Ended June 30, 2023 and 2022

	Pension Trust		Investment Trust	
	2023	2022	2023	2022
Actuary fees:				
Segal Consulting	\$121,476	\$122,505	\$ -	\$ -
GRS Consulting	30,000	-		
Total Actuary Fees	151,476	122,505	-	-
Auditing/Accounting fees:				
CliftonLarsonAllen LLP	15,750	84,999	15,750	22,460
Total Auditing Fees	15,750	84,999	15,750	22,460
Project management fees:				
Segal Consulting	255,599	185,909	-	-
Disability consulting fees:				
Sanford Health	250	150	-	-
Legal fees:				
K&L Gates LLP	1,351	10,649	(1,351)	13,936
Jackson Walker LLP	12,101	9,204	44,659	15,487
ND Attorney General	12,747	20,494	17,268	12,819
Total legal fees:	26,199	40,347	60,576	42,242
Total consultant expenses	<u>\$449,274</u>	<u>\$433,910</u>	<u>\$ 76,326</u>	<u>\$ 64,702</u>

North Dakota Retirement and Investment Office
Pension and Investment Trust Funds – Schedule of Investment Expenses
Years Ended June 30, 2023 and 2022

	Pension Trust		Investment Trust	
	2023	2022	2023	2022
Investment managers' fees:				
Global equity managers	\$ 515,749	\$ 1,082,859	\$ 740,726	\$ 1,482,461
Domestic large cap equity managers	1,796,585	621,946	8,074,428	3,258,391
Domestic small cap equity managers	786,323	925,653	3,979,688	5,993,667
International equity managers	1,041,416	1,068,362	7,211,790	8,552,582
Emerging markets equity managers	385,510	485,198	618,253	810,411
Domestic fixed income managers	1,116,310	1,586,971	13,911,661	14,784,472
Below investment grade fixed income managers	3,396,552	3,376,915	4,768,510	4,759,365
Diversified real assets managers	-	-	11,127,133	17,487,844
Real estate managers	(988,076)	3,001,837	1,439,900	7,053,553
Infrastructure managers	3,430,215	5,365,053	4,501,620	7,152,670
Timber managers	256,928	296,841	314,297	360,769
Private equity managers	3,170,639	4,099,850	5,918,907	6,142,169
Short term fixed income managers	-	-	879,205	867,223
Cash & equivalents managers	29,028	29,166	232,094	172,683
Balanced account managers	-	-	1,041,945	1,173,541
Total investment managers' fees	\$ 14,937,179	\$ 21,940,651	\$ 64,760,157	\$ 80,051,801
Custodian fees	252,016	268,454	1,205,164	1,329,330
Investment consultant fees	106,622	109,610	674,998	460,346
SIB Service Fees	-	-	110,708	81,809
Total investment expenses	\$ 15,295,817	\$ 22,318,715	\$ 66,751,027	\$ 81,923,286

Reconciliation of investment expenses to financial statements

	2023	2022	2023	2022
Investment expenses as reflected in the financial statements	\$ 7,468,043	\$ 6,924,716	\$ 34,820,522	\$ 32,154,613
Plus investment management fees included in investment income				
Domestic large cap equity managers	195,757	298,153	974,905	1,728,963
Domestic small cap equity managers	-	-	-	-
International equity managers	105,741	362,238	1,143,953	2,790,698
Emerging markets equity managers	109,165	152,835	174,357	254,438
Domestic fixed income managers	674,004	832,128	9,027,380	8,925,752
Below investment grade fixed income managers	3,010,844	2,980,786	4,508,405	4,296,493
Diversified real assets managers	-	-	9,241,197	15,829,379
Real estate managers	(2,623,992)	1,342,660	(3,770,955)	2,199,487
Infrastructure managers	2,949,837	5,028,508	3,871,352	6,703,285
Timber managers	235,779	296,841	286,557	360,769
Private equity managers	3,170,639	4,099,850	5,918,907	6,142,169
Cash equivalents managers	-	-	213,873	155,167
Balanced account managers	-	-	340,574	382,073
Investment expenses per schedule	\$ 15,295,817	\$ 22,318,715	\$ 66,751,027	\$ 81,923,286

North Dakota Retirement and Investment Office
Schedule of Appropriations – Budget Basis – Fiduciary Funds
July 1, 2021 to June 30, 2023 Biennium

	Approved 2021-2023 Appropriation	2021-2023 Appropriation Adjustment	Adjusted 2021-2023 Appropriation	Fiscal 2023 Expenses	Fiscal 2022 Expenses	Unexpended Appropriations
All Fund Types:						
Salaries and wages	\$ 5,053,977	\$ 1,794,743	\$ 6,848,720	\$ 3,485,332	\$ 2,316,308	\$ 1,047,080
Operating expenses	1,248,528	2,393,875	3,642,403	1,274,635	897,298	1,470,470
Capital Assets	-	6,300,000	6,300,000	1,214,874	934,913	4,150,214
Contingency	100,000	-	100,000	5,187	80,645	14,168
Total	<u>\$ 6,402,505</u>	<u>\$ 10,488,618</u>	<u>\$ 16,891,123</u>	<u>\$ 5,980,028</u>	<u>\$ 4,229,164</u>	<u>\$ 6,681,931</u>

NOTE: Only those expenses for which there are appropriations are included in this statement.

Reconciliation of Administrative Expenses to Appropriated Expenditures

	2023	2022
Administrative expenses as reflected in the financial statements	\$ 5,952,828	\$ 4,575,365
Plus:		
Capitalized software purchases - appropriated	1,899,328	680,999
Less appropriated accrual expense		
Retainage Payable	(170,367)	(29,876)
Less expenses paid under continuing appropriation:		
Consulting Services*	(269,436)	(300,232)
Other operating fees paid under continuing appropriations*	(931,922)	(655,217)
Depreciation expense	-	(1,350)
Changes in benefit accrual amounts	(500,402)	(40,526)
Total appropriated expenses	<u>\$ 5,980,029</u>	<u>\$ 4,229,163</u>

* North Dakota Century Code 21-10-06.2 and 15-39.1-05.2 provide authorization for the continuing appropriation.

**Special Comments Requested by the Legislative Audit
and Fiscal Review Committee
Year Ended June 30, 2023**

The Legislative Audit and Fiscal Review Committee requires that certain items be addressed by auditors performing audits of state agencies. These items and our responses are as follows:

Audit Report Communications

1. What type of opinion was issued on the financial statements?

Unmodified

2. Was there compliance with statutes, laws, rules, regulations under which the agency was created and is functioning?

Yes

3. Was internal control adequate and functioning effectively?

Yes, we did not identify a control deficiency required to be reported by professional standards.

4. Were there any indications of lack of efficiency in financial operations and management of the agency?

No

5. Has action been taken on findings and recommendations included in prior year reports?

There were no prior year findings or recommendations.

6. Was a management letter issued? If so, provide a summary below, including any recommendations and the management response.

No

Audit Committee Communications

1. Identify any significant changes in accounting policies, any management conflicts of interest, any contingent liabilities, or any significant unusual transactions.

For the year ended June 30, 2023, no new accounting policies were adopted and the application of existing policies was not changed.

2. Identify any significant accounting estimates, the process used by management to formulate the accounting estimates, and the basis for the auditor's conclusions regarding the reasonableness of those estimates.

The valuation of alternative investments, including private equity and real asset investments, are a management estimate which is primarily based upon net asset values reported by the investment managers and comprise 18% of the total investment portfolio. The values for these investments are reported based upon the most recent financial data available and are adjusted for cash flows through June 30, 2023. Our audit procedures validated this approach through the use of confirmations sent directly to a sample of investment managers and the review of the most recent audited financial statements for these funds. Furthermore, we reviewed management's estimate and found it to be reasonable.

The actuarial valuation was based on the actuarial assumptions and methods adopted by the Board, including an actuarial expected investment rate of return of 7.25% per annum compounded annually. The valuation takes into account all of the promised benefits to which members are entitled as of July 1, 2023 as required by the North Dakota Century Code. The valuation provides certain information required by GASB to be disclosed in the financial statements. Additionally, the valuation is used to determine the adequacy of the current employer contribution rate. Our audit procedures included reviewing the actuarial valuation and related assumptions used therein and we believe the estimate to be reasonable.

3. Identify any significant audit adjustments.

None

4. Identify any disagreements with management, whether or not resolved to the auditor's satisfaction, relating to financial accounting, reporting, or auditing matters that could be significant to the financial statements.

None

5. Identify any significant difficulties encountered in performing the audit.

None

6. Identify any major issues discussed with management prior to retention.

None

7. Identify any management consultations with other accounts about auditing and accounting matters.

None

8. Identify any high-risk information technology systems critical to operations based on the auditor's overall assessment of the importance of the system to the agency and its mission or whether any exceptions identified in the six audit report questions addressed above are directly related to the operations of an information technology system.

Based on the audit procedures performed, the Retirement and Investment Office's critical information technology system is the CPAS system. There were no exceptions identified that were directly related to this application.

This report is intended solely for the information and use of the audit committee, management, the Legislative Audit and Fiscal Review Committee, and other state officials, and is not intended to be and should not be used by anyone other than these specified parties.



CliftonLarsonAllen LLP

Baltimore, Maryland
November 3, 2023