Report of the Treasurer

for the year ended
June 30, 2022

Massachusetts
Institute of
Technology

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for the year ended June 30, 2022

Massachusetts
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Report of the Treasurer

To the Members of the Corporation

The Institute's financial performance in fiscal 2022 reflected the careful management of our resources in navigating the COVID-19 pandemic while we advanced bold aspirations. Our net results were $271.8 million as both revenues and expenses began rebounding from the pandemic, and as we continued to benefit from the generosity of alumni and friends. Challenging economic conditions affected the performance of our pooled investments, resulting in a return of -5.3 percent as measured using valuations received within one month of fiscal year-end. Nonetheless, our net assets of $33,230.5 million at fiscal year close were more than 35 percent higher than just two years ago.

Even as the COVID-19 pandemic continued to affect operations in fiscal 2022, we were nonetheless able to resume a more robust level of on-campus activity. Supported by our vaccination policy and other measures taken to protect the health of our community, we reopened residence halls to students year-round and restored in-classroom experiences. Faculty and staff have returned to campus, and we have welcomed experimentation with hybrid schedules and remote work where possible. Revenues for student housing and dining and most expenses associated with on-campus activity have climbed back to near pre-pandemic levels.

As we reopened the campus, we continued to focus on the needs of our students. We increased undergraduate financial aid to enable students with family incomes less than $140,000 per year (and with typical assets) to attend MIT tuition-free for the 2022-2023 academic year. We are executing an extensive program to renovate and expand on-campus residences to offer affordable and convenient housing for undergraduate and graduate students. In addition, we are updating our Student Center next summer, fashioning new maker and meeting spaces to enrich the MIT student experience, and we look forward to working with the union bargaining unit recently formed by our graduate students to continue improving the Institute for all.

We also advanced research and innovation to make a positive impact for the nation and the world. This year, we accelerated funding for MIT's Climate Grand Challenges initiative to expedite progress on flagship research projects ranging from preparing for weather and climate extremes, to revolutionizing agriculture with low-emission crops, to creating an innovation hub for the electrification and decarbonization of industry. As we pursue solutions to climate change, we are also dedicated to eliminating MIT's own carbon emissions by 2050 with a near-term milestone of achieving net-zero campus emissions by 2026. Despite significant campus growth, we have already reduced net emissions by more than 20 percent from a 2014 baseline through investments in campus utility and other infrastructure to markedly improve energy efficiency.

Kendall Square continues to be reshaped into a vibrant innovation ecosystem with new investment properties and academic and research facilities. The InnovationHQ hub, MIT Welcome Center, and MIT Press Bookstore are open, and outdoor spaces are activated with year-round public programming. The MIT Museum will open this fall adjacent to a redesigned MBTA Kendall/MIT station, which is also nearing completion.

An integral part of this innovation ecosystem is The Engine, established by MIT in 2016 to bridge the gap between discovery and commercialization for "tough tech" companies tackling the world's biggest problems. The Engine has now invested in 44 startup companies since its inception, and it will soon expand into 160,000 square feet of newly renovated space at 750 Main Street to amplify its impact.

The recent enactment of the federal CHIPS and Science Act will serve to further propel innovation at and around MIT by increasing funding for scientific research and advancing chip technology.

SUMMARY OF KEY FINANCIAL HIGHLIGHTS (10-YEAR TREND)

(in millions of dollars)	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Revenue	3,196	3,135	3,302	3,439	3,566	3,641	3,932	3,931	3,945	4,265
Expenses*	2,884	2,897	3,084	3,319	3,430	3,536	3,711	3,744	3,729	3,993
Net Results	312	237	218	120	136	105	221	187	216	272
Net Assets	13,858	16,028	17,507	16,929	19,125	21,517	22,769	24,217	36,446	33,231
Endowment (excludes pledges)	10,858	12,425	13,475	13,182	14,832	16,400	17,444	18,382	27,394	24,601
Net Borrowings	2,417	2,904	2,905	2,892	3,288	3,259	3,168	4,194	3,929	4,657

*Expenses include all components of net periodic benefit costs

The MIT Stephen A. Schwarzman College of Computing was first established in 2018 to lead MIT, academia, and the world in addressing the opportunities and challenges of the computing age. Currently under construction on Vassar Street, its new building will serve as an interdisciplinary hub for work in computing when it opens in summer 2023, enabling MIT to harness computing advances across disciplines. Additionally, this spring MIT announced the creation of the Office of Research Computing and Data to enhance computing infrastructure and services for MIT's research community.

MIT has advanced these and other initiatives prudently with an eye toward maintaining fiscal resilience. We have taken a balanced approach to deploying fiscal 2021 endowment gains to enhance the Institute's impact while remaining mindful of challenges and risks in the larger economic environment. Our efforts to achieve impact have also been buoyed by continued strong support from alumni and friends. In fiscal 2022, we completed our Campaign for a Better World, raising $6.2 billion to further the pursuit of our mission. Fiscal 2022 total philanthropic contributions as reflected in our financial statements amounted to $686.7 million - $181.5 million more than in fiscal 2021.

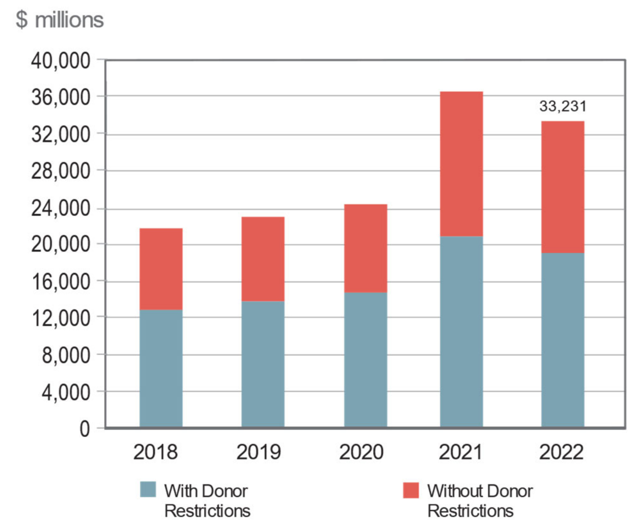
The following sections provide additional details regarding MIT's fiscal 2022 financial statements: Consolidated Statements of Financial Position, Consolidated Statement of Activities, and Consolidated Statements of Cash Flows. Net results, as presented in MIT's Consolidated Statement of Activities, is the measure to which the Institute manages its annual budget and is used in financial reports presented to MIT's leadership, including the Executive Committee and the Corporation. It is a comprehensive measure of MIT's annual financial performance, including operating activity and all components of our annual retirement benefit costs that serve as a basis for cost recovery.

The Consolidated Statement of Activities also shows results of operations—a measure of ongoing activities—which excludes the impacts of the components of net periodic retirement benefit costs other than service costs, and results of operations before depreciation and interest, which is a valuable measure for the Institute as it highlights the impacts of financing and capital development activities costs included in net results.

Consolidated Statements of Financial Position

The discussion in this section highlights key elements of MIT's financial position: net assets; investments; land, buildings, and equipment; postretirement benefit assets and liabilities; and borrowings.

Net Assets



Total net assets decreased to $33,230.5 million, or 8.8 percent from fiscal 2021. Net assets are presented in two distinct categories to recognize the significant ways in which universities are different from profit-making organizations. The two categories reflect the nature of the restrictions placed on gifts by donors.

In fiscal 2022, net assets with donor restrictions decreased $1,785.7 million, or 8.6 percent, to $18,934.9 million. The decrease was primarily due to a net loss on total donor-endowed pooled investments and the distribution of pooled gains to support current-year operations, partially offset by new donor-endowed gifts and pledges. Net assets without donor restrictions decreased $1,430.1 million, or 9.1 percent, to $14,295.6 million. The decrease was primarily due to a net loss on total quasi-endowed and non-endowed pooled investments, the distribution of pooled gains to support current-year operations, and a decrease in the net asset positions of our retirement plans, all partially offset by a net gain on non-pooled investments and positive net results.

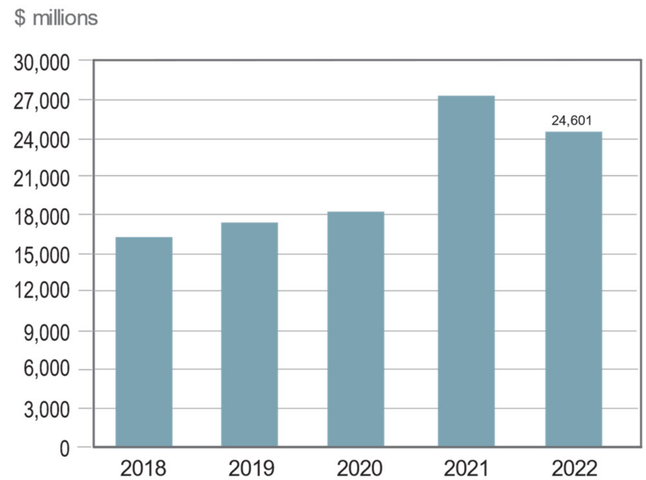
Investments

Investments at fair value were $32,548.6 million as of fiscal year-end 2022, a decrease of $2,244.8 million, or 6.5 percent. The consolidated financial statements include both realized and unrealized gains and losses on investments, as well as dividends and interest income, all net of investment expenses. These amounts yielded a net loss on investments of $2,056.2 million in fiscal 2022, and a net gain of $10,889.9 million in fiscal 2021. The decrease in the value of investments in fiscal 2022 was principally driven by a net loss on pooled investments.

MIT's investment policy is based on the primary goal of generating high real rates of return without exceptional volatility. To reduce volatility, the portfolio is broadly diversified. To generate high real rates of return, MIT's investment policy favors equity investments over fixed-income instruments and is heavily weighted toward less efficient markets. MIT primarily invests through external fund managers, thereby allowing the Institute to access the best investment talent globally. By identifying a wide variety of top-tier investment managers with specific competencies, MIT is able to construct a broadly diversified portfolio while accessing deep sector expertise. Decision authority for the selection of managers, direct investments, and asset allocation resides with the MIT Investment Management Company (MITIMCo). The Board of Directors of MITIMCo holds four regularly scheduled meetings during the fiscal year in which investment policy, performance, and asset allocation are reviewed.

MIT's primary investment pool is known as Pool A. Pooled investment income and a portion of gains are distributed for spending to support operations in a manner that preserves the long-term purchasing power of the endowment and other pooled investments. Funds invested in Pool A receive distributions based on relative ownership, which is valued monthly. MIT also has separate non-pooled investments for which investment income supports operations. In fiscal 2022, Pool A produced a return of -5.3 percent as measured using valuations received within one month of fiscal year-end. Total investments and net assets for fiscal 2022 and fiscal 2021 reflect certain valuations that have been updated based on information received prior to publication and additional factors besides Pool A returns.

Endowment (without pledges)



Endowment assets are the largest component of both total and pooled investments. The market value of investments in endowment funds, excluding pledges for endowed purposes, totaled $24,600.8 million as of fiscal year-end 2022, a decrease of 10.2 percent compared to a total of $27,394 million last year. The decrease was primarily driven by a net loss on pooled endowment investments and the distribution of pooled endowment gains to support current-year operations, partially offset by new donor-endowed gifts.

Land, Buildings, and Equipment

Land, buildings, and equipment had a net book value of $4,686.5 million as of fiscal year-end 2022, an increase of $210.5 million, or 4.7 percent. In fiscal 2022, the Institute advanced approximately 175 capital projects with a total fiscal 2022 spend of roughly $350 million. As we proceed with our 2030 capital plan, MIT continues to realize significant improvements in support for academic, research and student life programs, campus infrastructure, and the surrounding innovation ecosystem.

As noted above, MIT remains committed to improving housing for both graduate and undergraduate students. Construction of the West Campus graduate residence on Vassar Street is under way with occupancy planned for fall 2024. The apartment-style residence hall is expected to provide 676 new student beds, completing MIT's 2017 commitment to add 950 beds to the Institute's graduate student housing stock.

The renewal of the Burton Conner undergraduate residence (Building W51) was completed for fall 2022 occupancy, and a project to renew MIT's East Campus "Parallels" undergraduate residence is currently in the design phase. Construction will begin in the summer of 2023 for occupancy in fall 2025. The buildings were constructed in 1928 (East Parallel Building 64) and 1932 (West Parallel Building 62), and the last major renovation of the buildings was in 1968.

In addition to renewing and expanding student housing, MIT seeks to enhance student life programming. The design phase to make improvements to the Stratton Student Center (Building W20) is in progress, with completion targeted for fall 2023. An important campus hub, MIT's Student Center was constructed in 1968 and last renovated in 1984. The project will have a transformative impact on student, community, and campus visitor experiences, with programmatic and aesthetic improvements providing a contemporary and welcoming environment. A new location for Institute-wide wellbeing activities will be located on the third level.

Near the Student Center, construction has begun for the new state-of-the-art music building targeted for opening in 2024. The building will house performance, rehearsal, and recording spaces and a new 300-seat performance arena. Across campus, the newly renovated and totally re-envisioned Hayden Library and Building 14 courtyard opened to the MIT community in August 2021. With areas for collaboration, collections, teaching, and events, the library and courtyard are surrounded by greenery and natural light.

Construction of the MIT Stephen A. Schwarzman College of Computing building is well under way and targeted for completion in June 2023. The College provides a shared academic structure to facilitate the connection of computing scholarship across all disciplines at MIT and serves as an interdisciplinary core for work in computing across the Institute.

Currently in design, Department of Mechanical Engineering space in Buildings 1 and 3 will be reimagined to create a collaborative and communal center for research and education at the intersection of computing systems, spanning all areas of expertise across the Department. The fourth level of Building 3 includes a unique architectural feature of MIT's Bosworth building complex, the ziggurat, which will be renovated, and a rooftop addition for Building 1 is planned.

Renovation of the Metropolitan Storage Warehouse (Met Warehouse) is in progress. The Met Warehouse project will transform the iconic building located at 134 Massachusetts Avenue into a modern hub for interdisciplinary design research and education. The renovated Met Warehouse will provide a new home for the MIT School of Architecture and Planning (SA+P), a location for a large ground-floor campus makerspace, and a venue for the newly established MIT Morningside Academy for Design.

Construction has also begun on the addition to the Cecil and Ida Green Building (Building 54) for the Department of Earth, Atmospheric, and Planetary Sciences. The new Earth and Environment Pavilion will be a center for environmental and climate research on campus. MIT has continued to reduce its carbon footprint and improve campus resiliency with the completion of the Central Utilities Plant upgrade and ongoing concerted investments in energy efficiency in our buildings.

Addressing deferred maintenance continues to be prioritized as an integral part of the overall capital program. Our facility condition index (FCI), which is the ratio of deferred maintenance to replacement value for MIT buildings in Cambridge, has decreased from 0.26 in fiscal 2014 to 0.16 at the end of fiscal 2022. Large renovation projects and the renewal of core infrastructure systems have been completed across much of the campus, reducing the backlog of deferred maintenance. At the end of fiscal 2022, the total campus backlog was equal to $109 per gross square foot, down from a peak of $150 per gross square foot in fiscal 2014. The expectation is that MIT will continue to be in the top quartile of its peers in managing deferred maintenance while also addressing wide-ranging needs in support of research, academic, and student life priorities.

Postretirement Benefit Assets and Liabilities

The defined benefit pension plan provides a basic retirement benefit to eligible MIT employees upon their retirement as monthly income for the rest of their lives. This plan had assets of $5,457.6 million as of fiscal year-end 2022, a decrease of $922.4 million from fiscal year-end 2021. The plan's projected liabilities were $5,074.7 million as of fiscal year-end 2022, down $354.8 million from a year earlier. This resulted in a $567.6 million decrease in net pension assets, which totaled $382.9 million as of fiscal year-end 2022.

MIT also maintains a retiree welfare benefit plan that covers retiree expenses associated with medical and life insurance benefits. This plan had assets of $952.4 million as of fiscal year-end 2022, a decrease of $149.9 million from fiscal year-end 2021. The plan's projected liabilities were $640.0 million as of fiscal year-end 2022, down $23.1 million from a year earlier. This resulted in a $126.8 million decrease in net asset position, which totaled $312.4 million as of fiscal year-end 2022.

The changes in asset values of both plans in 2022 were primarily a function of negative investment returns. The decreases in liabilities of both plans were driven by increases in the discount rates used to discount expected future cash payments to MIT retirees, partially offset by higher obligations due to one more year of benefits being earned by MIT's employees and increased inflation. The discount rates for each plan were derived by identifying a theoretical settlement portfolio of high-quality corporate bonds sufficient to provide for the plan's projected benefit obligations. As of June 30, 2022, the defined benefit pension plan's discount rate increased 160 basis points relative to June 30, 2021, while the retiree welfare plan's discount rate increased 149 basis points. The discount rates in both years were reflective of the prevailing interest rate environments at the dates of measurement (June 30, 2022, and June 30, 2021).

On a generally accepted accounting principles (GAAP) basis at fiscal year-end 2022, the defined benefit pension plan had a funding level of 107.5 percent, down from 117.5 percent one year earlier. The retiree welfare benefit plan had a funding level of 148.8 percent at fiscal year-end 2022, a decrease from 166.2 percent one year earlier. There were no designated contributions to either plan during fiscal 2022. The investments of both plans' assets are managed by MITIMCo.

MIT also offers a 401(k) plan to its employees, which is not reflected in the Consolidated Statements of Financial Position. Assets in this plan are invested at the direction of participants in an array of investment funds. The plan's investment market value was $5,763.6 million as of fiscal year-end.

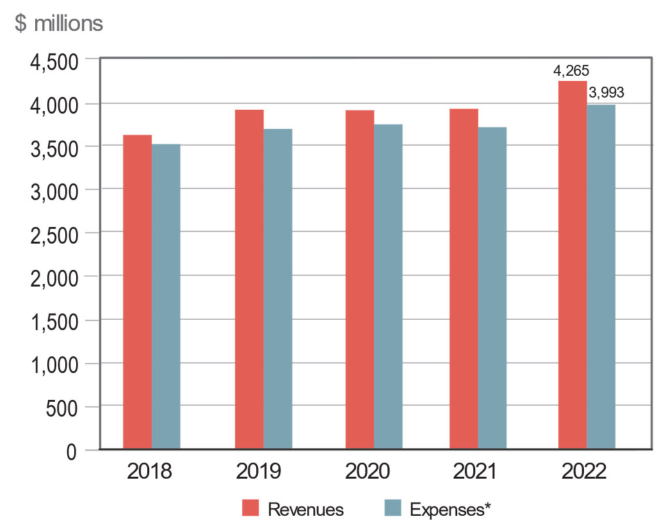
Borrowings

In fiscal year 2022, borrowings increased $728.0 million, or 18.5 percent, to $4,657.0 million. The increase was primarily due to the issuance of new taxable bonds, Series H and Series F Add-on, for $500 million and $225 million par value, respectively. The proceeds of these bonds will support wide-ranging Institute capital needs.

MIT's financial strength is reviewed periodically by both Moody's Investors Service and S&P Global Ratings. In fiscal 2022, the Institute maintained its "Aaa" and "AAA" ratings, respectively.

Consolidated Statement of Activities

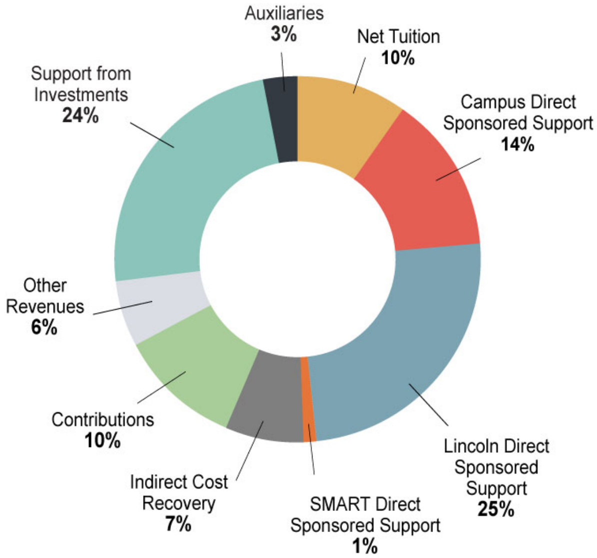
Revenues and Expenses



* Expenses include all components of net periodic benefit costs.

MIT ended fiscal 2022 with net results of $271.8 million. This is $55.5 million, or 25.6 percent, more than the fiscal 2021 result. Operating revenues increased $320.1 million, or 8.1 percent, to $4,265.2 million, while operating expenses together with all other components of our net periodic retirement benefit costs increased $264.6 million, or 7.1 percent, to $3,993.3 million. Year-over-year comparisons of revenues and expenses are presented in the graph above.

Revenues



MIT's operating revenues include tuition, sponsored support, contributions (expendable gifts and pledge payments), other revenue, support from investments, and auxiliary revenue.

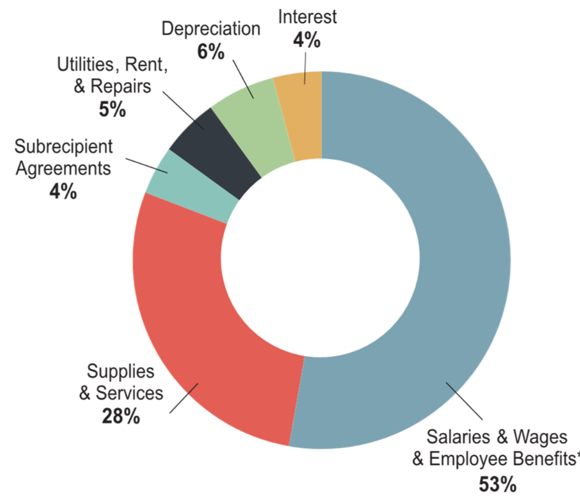
Tuition revenue for graduate and undergraduate programs, combined with tuition revenue for non-degree programs, increased by $70.9 million, or 20.6 percent, to $415.3 million. Undergraduate net tuition increased $23.6 million, or 27.0 percent. Graduate net tuition increased by $29.6 million, or 15.4 percent. The growth in net tuition was due to increases in the published tuition rate and enrollment for degree coursework, as well as the phase-out of one-time COVID-era tuition credits. Non-degree program revenue increased $17.7 million, or 27.4 percent, driven by returning and new course offerings, as well as increased enrollment.

Sponsored support increased $30.7 million, or 1.6 percent, to $1,987.8 million in fiscal 2022. Direct sponsored revenues increased by $22.2 million, and indirect revenues increased by $8.5 million. Campus direct sponsored revenue increased $29.9 million, or 5.2 percent, as total research activity and expense increased with the relaxation of COVID-related constraints. Lincoln Laboratory (Lincoln) direct sponsored revenue decreased $1.1 million, or 0.1 percent, as the completion of several projects last year resulted in a decrease in this year's repair and maintenance expense. Direct revenue associated with the Singapore-MIT Alliance for Research and Technology (SMART) decreased $6.6 million, or 23.4 percent, due to the completion of two research programs. The $8.5 million increase in indirect cost recovery was driven by growth in recoverable costs, such as salary increases, depreciation from recently completed capital projects, and costs associated with the return to campus. Federal support comprised 63.9 percent of total campus research volume in fiscal 2022, while non-federal support accounted for 36.1 percent.

Support from investments increased $109.6 million, or 12.0 percent, as the distribution rate from pooled investments was increased. The effective spending rate on pooled investment funds was 3.1 percent to start fiscal 2022, or 4.4 percent on a three-year-average basis.

Operating contributions, which include gifts and bequests for current use and expendable pledge payments, increased by $7.6 million, or 1.7 percent.

Expenses



* Employee Benefits expenses include all components of net periodic benefit costs.

MIT's operating expenses, combined with the non-service-cost components of net periodic benefit costs, increased $264.6 million, or 7.1 percent. These expenses include salaries and wages; employee benefits; supplies and services; subrecipient agreements; utilities, rent, and repairs; depreciation; and interest.

Overall Institute salary expenses increased 5.2 percent. Campus salaries increased 6.2 percent, as average annualized salaries and wages grew by 5.3 percent due to the resumption and restoration of merit increases following early COVID-era salary freezes, while the number of full-time-equivalent employees increased 0.7 percent. Employee benefit expenses, together with all components of net periodic benefit costs for retirement plans included in our net results calculation, decreased 7.1 percent. The total net periodic benefit costs for the retirement pension and medical plans fell due to exceptional asset returns in fiscal 2021. Those decreases were partially offset by increases in net medical and dental costs, payroll taxes, and other benefit costs related to wages.

During fiscal 2022, expenses for supplies and services increased $160.9 million, or 16.7 percent, to $1,125.3 million. The increased expenses were due to the resumption of campus activity in fiscal 2022 following more constrained operations in fiscal 2021. Subrecipient agreement costs increased $18.9 million, or 13.3 percent, from more subawards in the School of Engineering and School of Humanities, Arts, and Social Sciences.

Utilities, rent, and repairs expenses decreased $11.5 million, or 5.1 percent, driven by a decrease in repair expenses at Lincoln Laboratory. Depreciation expenses increased $14.0 million, or 6.7 percent, with the activation of a new cogeneration plant and the opening of new graduate and undergraduate residences. Interest expenses increased $30.3 million, or 24.0 percent, primarily due to new interest expense associated with two taxable bond issuances in fiscal 2022 and a decrease in capitalized interest due to project timing.

Other Revenues, Gains, and Losses Summary

Other revenues, gains, and losses drove $3,487.7 million of MIT's fiscal 2022 decrease in net assets of $3,215.8 million. Other revenues, gains, and losses in fiscal 2022 include a net loss on total investments, investment spending distribution to support operations, and changes in retirement plan obligations, offset by contributions and other changes. In fiscal 2022, net loss on investments and spending distribution to support operations decreased net assets by $3,078.4 million. Changes in retirement plan obligations decreased net assets by $706.1 million. Contributions revenue in other revenues, gains, and losses, which includes net current year pledge revenue and endowed gifts and bequests, increased net assets by $231.0 million.

Contributions

Contributions to MIT provide support for scholarships, fellowships, professorships, research, educational programming, student life activities, and the construction and renovation of buildings. Contributions (including both current use and endowed gifts and pledges) for fiscal 2022 totaled $686.7 million, an increase of 35.9 percent from the fiscal 2021 total of $505.2 million. Of new gifts and pledges in fiscal 2022, contributions from individuals represented 47.5 percent, contributions from foundations represented 26.8 percent, and contributions from corporations and other sources represented 25.7 percent. New gifts and pledges for research and education were the largest categories of contributions for fiscal 2022.

Consolidated Statements of Cash Flows

The Consolidated Statements of Cash Flows divide cash inflows and outflows into three categories: operating, investing, and financing. Although this division is a requirement of GAAP, when reviewing the cash flow statement of a nonprofit organization such as MIT, it is important to also consider that investing activities as presented in the cash flow fund a large portion of operating activity through distributions from pooled investments. In fiscal 2022, support from investments comprised 32.2 percent of overall campus operating revenue.

Net operating activities—which result from a total increase in net assets adjusted for non-cash items in the Consolidated Statement of Activities (depreciation, net gain on investments, change in retirement plans' net assets, etc.), changes in certain non-cash assets and liabilities, and other reclassifications—consumed $573.7 million of cash and restricted cash in fiscal 2022. Net investing activities consumed $437.7 million in cash, driven by purchases of land, buildings, and equipment. Financing activities provided $983.6 million in cash, driven primarily by proceeds from borrowings this year.

MIT's full consolidated financial statements and notes are on the pages that follow, including the Consolidated Statements of Financial Position, the Consolidated Statement of Activities, and the Consolidated Statements of Cash Flows.

Conclusion

In February 2022, L. Rafael Reif shared his plan to step down as President of MIT at the end of the calendar year, and in April a search committee chaired by MIT Corporation Life Member John W. Jarve ’78, SM ’79, was formed to help identify his successor. Over the past decade, we have benefitted enormously from President Reif’s exceptional dedication to the advancement of our mission.

As we look to the future, we do so with a sense of pride in how we have weathered both the financial and human challenges of the extended pandemic, as well as great enthusiasm for what lies ahead. We begin fiscal 2023 with momentum and financial resilience—poised for even greater impact.

I am grateful to MIT’s alumni and friends for their sustained generosity, and to our entire community, including our governance, for its collective contributions to the thoughtful stewardship of the Institute’s financial assets.

Respectfully submitted,

Glen Shor
Executive Vice President and Treasurer
October 7, 2022

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Report of Independent Auditors

To Members of the Corporation of the
Massachusetts Institute of Technology:

Opinion

We have audited the accompanying consolidated financial statements of the Massachusetts Institute of Technology and its subsidiaries (the "Institute"), which comprise the consolidated statements of financial position as of June 30, 2022 and 2021, and the related consolidated statements of activities for the year ended June 30, 2022, and of cash flows for the years ended June 30, 2022 and 2021, including the related notes (collectively referred to as the "consolidated financial statements").

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the financial position of the Institute as of June 30, 2022 and 2021, and the changes in its net assets for the year ended June 30, 2022 and its cash flows for the years ended June 30, 2022 and 2021 in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (US GAAS). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are required to be independent of the Institute 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 opinion.

Other Matter

We previously audited the consolidated statement of financial position as of June 30, 2021, and the related consolidated statements of activities and cash flows for the year then ended (the statement of activities is not presented herein), and in our report dated October 13, 2021, we expressed an unmodified opinion on those consolidated financial statements. In our opinion, the information set forth in the accompanying summarized financial information for the year ended June 30, 2021 is consistent, in all material respects, with the audited consolidated financial statements from which it has been derived.

Responsibilities of Management for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated 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 consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Institute's ability to continue as a going concern for one year after the date the consolidated financial statements are issued.

PricewaterhouseCoopers LLP, 101 Seaport Boulevard, Suite 500, Boston, Massachusetts 02210
T: (617) 530 5000, www.pwc.com/us

Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. 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 US GAAS 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 consolidated financial statements.

In performing an audit in accordance with US GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the consolidated 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 consolidated 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 the Institute'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 consolidated financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Institute'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.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the contents of the Report of the Treasurer, but does not include the consolidated financial statements and our auditors' report thereon. Our opinion on the consolidated financial statements does not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the consolidated financial statements or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

PricewaterhouseCoopers LLP

Boston, Massachusetts
October 7, 2022

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
CONSOLIDATED STATEMENTS OF FINANCIAL POSITION
as of June 30, 2022, and 2021

(in thousands of dollars)	2022	2021
Assets		
Cash	$ 374,672	$ 345,519
Accounts receivable, net	394,067	358,742
Pledges receivable, net, at fair value	585,003	571,268
Contracts in progress, principally US government	104,740	81,766
Deferred charges and other assets	257,775	236,721
Investments, at fair value	32,548,631	34,793,438
Operating leases - right of use assets	236,823	273,512
Net asset position - defined benefit pension plan	382,863	950,414
Net asset position - retiree welfare benefit plan	312,366	439,150
Land, buildings, and equipment (at cost of $7,001,073 for June 2022; $6,642,569 for June 2021), net of accumulated depreciation	4,686,460	4,475,962
Total assets	**$ 39,883,400**	**$ 42,526,492**
Liabilities and Net Assets		
Liabilities:		
Accounts payable, accruals, and other liabilities	$ 671,444	$ 712,377
Deferred revenue and other credits	269,693	321,496
Advance payments	522,358	513,726
Operating lease liabilities	246,083	282,040
Liabilities due under life income fund agreements, at fair value	286,241	321,450
Borrowings, net of unamortized issuance costs	4,657,050	3,929,034
Total liabilities	**$ 6,652,869**	**$ 6,080,123**
Net Assets:		
Without donor restrictions	$ 14,295,593	$ 15,725,732
With donor restrictions	18,934,938	20,720,637
Total net assets	**$ 33,230,531**	**$ 36,446,369**
Total liabilities and net assets	**$ 39,883,400**	**$ 42,526,492**

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

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
CONSOLIDATED STATEMENT OF ACTIVITIES

For the year ended June 30, 2022
(with summarized financial information for the year ended June 30, 2021)

	2022		Total	
(in thousands of dollars)	Without Donor Restrictions	With Donor Restrictions	2022	2021
Operating Revenues				
Tuition and similar revenues, exclusive of financial aid of $417,572 in 2022 and $401,198 in 2021	$ 415,252	$ -	$ 415,252	$ 344,303
Sponsored support:				
Campus direct	608,753	-	608,753	578,900
Lincoln direct	1,072,814	-	1,072,814	1,073,876
SMART direct	21,639	-	21,639	28,246
Indirect cost recovery	284,643	-	284,643	276,103
Total sponsored support	1,987,849	-	1,987,849	1,957,125
Contributions	421,437	34,292	455,729	448,179
Other revenue	241,985	-	241,985	200,878
Support from investments:				
Endowment	834,545	-	834,545	749,106
Other investments	187,657	-	187,657	163,536
Total support from investments	1,022,202	-	1,022,202	912,642
Auxiliary enterprises	142,133	-	142,133	81,965
Total revenues	$ 4,230,858	$ 34,292	$ 4,265,150	$ 3,945,092
Operating Expenses				
Salaries and wages	$ 1,700,986	$ -	$ 1,700,986	$ 1,617,407
Employee benefits	608,873	-	608,873	577,802
Supplies and services	1,125,335	-	1,125,335	964,472
Subrecipient agreements	161,253	-	161,253	142,319
Utilities, rent, and repairs	214,645	-	214,645	226,187
Total expenses before depreciation and interest	3,811,092	-	3,811,092	3,528,187
Results of operations before depreciation and interest	419,766	34,292	454,058	416,905
Depreciation	223,364	-	223,364	209,325
Interest expense	156,807	-	156,807	126,468
Results of operations	39,595	34,292	73,887	81,112
Net periodic benefit income other than service cost	197,935	-	197,935	135,255
Net results	$ 237,530	$ 34,292	$ 271,822	$ 216,367
Other Revenues, Gains, and Losses				
Contributions	$ -	$ 230,951	$ 230,951	$ 57,005
Net return on investments	(514,656)	(1,541,551)	(2,056,207)	10,889,913
Distribution of investment income and gains	(436,635)	(585,567)	(1,022,202)	(912,642)
Other changes	88,989	(23,057)	65,932	103,504
Postretirement plan changes other than net periodic benefit cost	(706,134)	-	(706,134)	1,875,291
Net asset reclassifications and transfers	(99,233)	99,233	-	-
Total other revenues, gains, and losses	(1,667,669)	(1,819,991)	(3,487,660)	12,013,071
(Decrease) increase in net assets	(1,430,139)	(1,785,699)	(3,215,838)	12,229,438
Net assets at the beginning of the year	15,725,732	20,720,637	36,446,369	24,216,931
Net assets at the end of the year	**$ 14,295,593**	**$ 18,934,938**	**$ 33,230,531**	**$ 36,446,369**

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

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
CONSOLIDATED STATEMENTS OF CASH FLOWS

for the years ended June 30, 2022, and 2021

(in thousands of dollars)	2022	2021
Cash Flow from Operating Activities		
(Decrease) Increase in net assets	$ (3,215,838)	$ 12,229,438
Adjustments to reconcile change in net assets		
to net cash used in operating activities:		
Net loss/(gain) on investments	2,138,280	(10,952,680)
Change in retirement plan asset, net of projected benefit obligation	694,335	(1,849,359)
Depreciation	223,364	209,325
Net loss/(gain) on life income funds and donor advised funds	39,680	(204,534)
Non-cash operating lease costs	36,689	40,225
Amortization of bond premiums and discounts and other adjustments	(4,993)	4,735
Change in operating assets and liabilities:		
Pledges receivable	(13,735)	49,072
Accounts receivable	(37,730)	(98,983)
Contracts in progress	(22,974)	18,120
Deferred charges and other assets	(20,582)	(50,089)
Accounts payable, accruals, and other liabilities	(25,239)	71,552
Liabilities due under life income fund agreements	(8,803)	110,341
Deferred revenue and other credits	(50,005)	119,321
Advance payments	8,632	56,159
Operating lease liability	(35,957)	(39,335)
Reclassification of donated securities	(9,659)	(8,308)
Reclassification of investment income for restricted purposes	(5,169)	(4,907)
Reclassification of contributions restricted for long-term investment	(264,029)	(159,110)
Net cash and restricted cash used in operating activities	(573,733)	(459,017)
Cash Flow from Investing Activities		
Purchase of land, buildings, and equipment	(449,374)	(384,586)
Purchases of investments	(9,426,475)	(9,173,044)
Proceeds from sale of investments	9,435,900	9,822,591
Student notes issued	(3,788)	(3,904)
Collections from student notes	6,080	7,054
Net cash and restricted cash (used in) provided by investing activities	(437,657)	268,111
Cash Flow from Financing Activities		
Contributions restricted for long-term investment	264,029	159,110
Payments to beneficiaries of life income funds	(26,406)	(21,812)
Proceeds from sale of donated securities restricted for endowment	9,659	8,308
Investment income for restricted purposes	5,169	4,907
Proceeds from borrowings	748,847	-
Repayment of borrowings	(15,907)	(261,180)
Repayments of government advances for student loans	(1,798)	(3,978)
Net cash and restricted cash provided by (used in) financing activities	983,593	(114,645)
Net decrease in cash and restricted cash	(27,797)	(305,551)
Cash and restricted cash at the beginning of the period	723,407	1,028,958
Cash and restricted cash at the end of the period	**$ 695,610**	**$ 723,407**
Supplemental Information on cash and restricted cash:		
Cash on Statements of Financial Position	$ 374,672	$ 345,519
Cash and restricted cash included in Investments (see Note B)	307,560	364,982
Restricted cash included in Other Assets (see Note G)	13,378	12,906
Total cash and restricted cash on Cash Flow	**$ 695,610**	**$ 723,407**

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

Notes to Consolidated Financial Statements

A. Accounting Policies

Basis of Presentation

The accompanying financial statements have been prepared in accordance with generally accepted accounting principles (GAAP) in the United States of America. The consolidated financial statements (financial statements) include Massachusetts Institute of Technology (MIT) and its wholly owned subsidiaries.

Net assets, revenues, expenses, and gains and losses are classified into two categories based on the existence or absence of donor-imposed restrictions: net assets with donor restrictions and net assets without donor restrictions.

Net assets with donor restrictions include gifts, pledges, trusts, and remainder interests, and income and gains that are either required by donors to be permanently retained or for which restrictions have not yet been met. Such restrictions include purpose restrictions (donors have specified the purpose for which the net assets are to be spent), time restrictions imposed by donors or implied by the nature of the gift (e.g., capital projects, pledges to be paid in the future, life income funds), or by interpretations of law (net gains on donor-endowed gifts, where the gains have not yet been appropriated for spending). Net assets without donor restrictions are all the remaining net assets of MIT.

Donor-restricted gifts and grants (including gifts of long-lived assets) and distributed restricted endowment income (for which the restrictions are met within the same year of gift, grant, or distribution) are reported as revenue without donor restrictions. Amounts for which the restrictions are not met within the same year of gift, grant, or distribution are reclassified to net assets with donor restrictions through the net asset reclassifications and transfers line in the Consolidated Statement of Activities. These amounts are released back to net assets without donor restrictions, through the net asset reclassifications and transfers line, during the years in which the restrictions are met. Gifts specified for the acquisition or construction of long-lived assets are reported as net assets with donor restrictions until the monies are expended and the long-lived assets (i.e., buildings) are put into use, at which point they are reclassified to net assets without donor restrictions, also through the net asset reclassifications and transfers line.

MIT administers its various funds, including endowments, funds functioning as endowments, school or departmental funds, and related accumulated gains, in accordance with the principles of fund accounting. Gifts are recorded in fund accounts, and investment income is distributed to funds annually. Income distributed to funds may be a combination of capital appreciation and yield pursuant to MIT's total return investment and spending policies. Each year, the Executive Committee of the Corporation approves the rates of distribution of investment return to funds from MIT's investment pools. See Note J for further information on income distributed to funds.

MIT's operating revenues include tuition, sponsored support, contributions (expendable gifts and pledge payments), other revenue, support from investments, and auxiliary revenue.

Net results, as presented in MIT's Consolidated Statement of Activities, is the measure to which the Institute manages its annual budget and is used in financial reports presented to MIT's leadership, including the Executive Committee and the Corporation. It is a comprehensive measure of MIT's annual financial performance, including operating activity and the non-service-cost components of net periodic benefit costs or income that serve as a basis for cost recovery.

The Consolidated Statement of Activities also shows results of operations, a measure of ongoing activities, which excludes the impacts of the components of net periodic retirement benefit costs or income other than service costs, and results of operations before depreciation and interest, which is a valuable measure for the Institute as it highlights the impacts of financing and capital development costs that are included in net results.

A. Accounting Policies (continued)

Tax Status

MIT is a nonprofit organization that is tax-exempt under Section 501(c)(3) of the Internal Revenue Code, originally recognized in October 1926, with the most recent affirmation letter dated September 2017.

US GAAP requires MIT to evaluate tax positions taken by the Institute to recognize a tax liability (or asset) if the Institute has taken an uncertain tax position that, more likely than not, would not be sustained upon examination by the IRS. MIT has analyzed the tax positions taken and has concluded that as of June 30, 2022, there are no significant uncertain positions taken or expected to be taken.

Cash

Certain cash balances, totaling $24.5 million and $56.2 million as of June 30, 2022, and 2021, respectively, are restricted for use under certain sponsored research agreements. These amounts are included within the cash line in the Consolidated Statements of Financial Position.

The Institute had approximately $310.2 million and $301.9 million as of June 30, 2022, and 2021, respectively, of its cash accounts with a single institution. The Institute has not experienced any losses associated with deposits at this institution.

Land, Buildings, and Equipment

Land, buildings, and equipment are shown at cost when purchased, or at fair value as of the date of a gift when received as a gift, net of accumulated depreciation. When expended, costs associated with the construction of new facilities are shown as construction in progress until such projects are completed and put into use. Depreciation is computed on a straight-line basis over the estimated useful lives of 25 to 50 years for buildings, 3 to 25 years for equipment, and 4 to 6 years for software.

Fully depreciated assets were removed from the financial statements in the amount of $71.3 million and $71.5 million during 2022 and 2021, respectively. Land, buildings, and equipment as of June 30, 2022, and 2021, are shown in Table 1 below.

TABLE 1. LAND, BUILDINGS, AND EQUIPMENT

(in thousands of dollars)	2022	2021
Land	$ 107,557	$ 107,557
Land improvements	109,590	109,590
Educational buildings	5,789,118	5,448,940
Equipment	421,716	421,981
Software	33,524	45,693
Total	6,461,505	6,133,761
Less: accumulated depreciation	(2,314,613)	(2,166,607)
Construction in progress	530,284	503,281
Software projects in progress	9,284	5,527
Net land, buildings, and equipment	**$ 4,686,460**	**$ 4,475,962**

Depreciation expense was $223.4 million in fiscal 2022 and $209.3 million in fiscal 2021. Net interest expense of $9.8 million and $31.8 million was capitalized during fiscal 2022 and fiscal 2021, respectively, in connection with MIT's construction projects.

A. Accounting Policies (continued)

Tuition and Student Support

Tuition and similar revenues, shown in Table 2 below, include tuition and fees for degree programs as well as tuition and fees for executive and continuing education programs at MIT. Tuition revenue is recognized over the period during which the courses are taken.

TABLE 2. TUITION AND SIMILAR REVENUES

(in thousands of dollars)	2022	2021
Undergraduate and graduate programs*	$ 333,083	$ 279,831
Executive and continuing education programs	82,169	64,472
Tuition and similar revenues	**$ 415,252**	**$ 344,303**

* Undergraduate and graduate programs at published rates totaled $750,655 and $681,029 in 2022 and 2021, respectively, and financial aid applied to undergraduate and graduate programs was $417,572 and $401,198 in 2022 and 2021, respectively.

Tuition support shown in Table 3 below is awarded to undergraduate students by MIT based on need. Graduate students are provided with tuition support in connection with research assistance, teaching assistance, and fellowship appointments.

TABLE 3. STUDENT SUPPORT

	2022			2021		
(in thousands of dollars)	Institute Sources	External Sponsors	Total Student Support	Institute Sources	External Sponsors	Total Student Support
Undergraduate tuition support	$ 143,516	$ 20,039	$ 163,555	$ 137,759	$ 21,447	$ 159,206
Graduate tuition support	274,056	63,451	337,507	263,439	60,742	324,181
Fellowship stipends	38,330	16,913	55,243	35,608	16,185	51,793
Student employment	58,619	90,898	149,517	53,814	86,627	140,441
Total	**$ 514,521**	**$ 191,301**	**$ 705,822**	**$ 490,620**	**$ 185,001**	**$ 675,621**

Sponsored Support and Advance Payments

Almost all of Lincoln and SMART sponsored revenue, and a portion of campus sponsored revenue, come from exchange contracts. Sponsored revenue related to exchange contracts is recognized as MIT fulfills the terms of the agreements, which generally span fewer than five years. Almost all of campus sponsored revenue—and a portion of Lincoln and SMART sponsored revenue—comes from non-exchange contracts. Sponsored revenue associated with non-exchange contracts is recognized as the qualified expenditures are incurred. Sponsored activities at Lincoln (which are contractually authorized by the sponsor but for which costs have not yet been incurred) totaled $731.2 million and $809.5 million as of fiscal 2022 and fiscal 2021, respectively. Sponsored activities on campus (which are contractually authorized by the sponsor but for which costs have not yet been incurred) totaled $1,064.5 million and $1,048.5 million as of fiscal 2022 and fiscal 2021, respectively.

Advance payments are amounts received by MIT from sponsors under the terms of agreements that generally require the exchange of assets, rights, or privileges between MIT and the sponsor. Advance payments are made for activity that will occur in the near future, generally within the next fiscal year.

Indirect sponsored revenue includes the portion of facilities and administrative expenses that is attributed to sponsored activities. MIT has recorded reimbursement of indirect costs relating to sponsored research activities at negotiated fixed billing rates. For non-research activities (such as instruction and other sponsored activity) MIT records reimbursement of indirect costs on federal awards using the de minimis rate allowed by Uniform Guidance, and for non-federal awards using rates that are agreed to with the sponsor.

The revenue generated by the negotiated indirect research rates is adjusted each fiscal year to reflect any variance between the negotiated fixed rates and rates based on actual costs. The actual cost rate is audited by the Defense Contract Audit Agency (DCAA), and a final fixed-rate agreement is signed by the U.S. government and MIT. The variance between the negotiated fixed rate and the final audited rate results in a carryforward (over- or under-recovery). The carryforward is included in the calculation of negotiated fixed billing rates in future years. Any adjustment in the rate is charged or credited to net assets without donor restrictions.

Gifts and Pledges (Contributions)

Gifts and pledges (contributions) are recognized when MIT has an unconditional right to receive payment. Gifts of securities are recorded at their fair value at the date of contribution. Donated securities received totaled $82.6 million and $58.6 million in fiscal 2022 and fiscal 2021, respectively. Gifts of equipment received from manufacturers and other donors are put into use and recorded by MIT at fair value. Gifts of equipment totaled $0.3 million in fiscal 2022 and $1.2 million in fiscal 2021. Pledges consist of unconditional promises to contribute to MIT in the future. Pledges are reported at their estimated fair values. Pledges receivable are classified as Level 3 under the valuation hierarchy described in Note B.

Pledges, trusts, and remainder interests are reported at their estimated fair values. MIT records items of collections as gifts at nominal value. They are received for educational purposes, and most are displayed throughout MIT. In general, collections are not disposed of for financial gain or otherwise encumbered in any manner.

Other Revenue and Auxiliary Enterprises

For the revenue streams included in other revenue and auxiliary enterprises, revenue is recognized at the point in time when goods or services are provided and are included in the without donor restrictions net asset category. Other revenue includes patent royalty revenue, membership agreement revenue, medical services revenue, and various other types of revenue. Auxiliary enterprises revenue includes room and board revenue, as well as revenue earned by MIT Press, Technology Review, and Endicott House.

A. Accounting Policies (continued)

Life Income Funds

MIT's life income fund agreements with donors consist primarily of irrevocable charitable gift annuities, pooled income funds, and charitable remainder trusts for which MIT serves as trustee. Assets are invested and payments are made to donors and other beneficiaries in accordance with the respective agreements. MIT records the assets that are associated with each life income fund at fair value and records as liabilities the present value of the estimated future payments at current interest rates to be made to the donors and beneficiaries under these agreements. Life income fund assets are included within investments in the Consolidated Statements of Financial Position. A roll forward of liabilities due under life income fund agreements is presented in Table 4 below.

TABLE 4. LIABILITIES DUE UNDER LIFE INCOME FUNDS

(in thousands of dollars)	2022	2021
Balance at the beginning of the year	$ 321,450	$ 232,921
Additions for new gifts	5,558	3,538
Termination and payments to beneficiaries	(27,856)	(31,550)
Net investment and actuarial (loss) gain	(12,911)	116,541
Balance at the end of the year	**$ 286,241**	**$ 321,450**

Recently Adopted Accounting Standards

On July 1, 2020, the Institute adopted ASU 2016-02 – *Leases* (Topic 842), which requires a lessee to recognize a right of use asset and a lease liability, initially measured at the present value of the lease payments, in its Consolidated Statements of Financial Position. The guidance also expands the required quantitative and qualitative disclosures surrounding leases. The effects of adopting this guidance resulted in the inclusion of the present value of operating lease payments in the Consolidated Statements of Financial Position as Operating leases—right of use assets of $313.7 million and Operating leases liabilities of $321.4 million as of the adoption date of July 1, 2020. These values as of June 30, 2022, are $236.8 million and $246.1 million, respectively. The Institute elected the package of practical expedients not to reassess: (1) whether any expired or existing contracts are or contain leases, (2) lease classification for any expired or existing leases, and (3) initial direct costs for any expired or existing leases. The Institute elected the short-term lease exemption policy as well as the practical expedient that allows lessees to treat the lease and non-lease components as a single lease component. In addition, the Institute elected to use hindsight to reassess lease terms or impairment at the adoption date. Refer to Note G for further information.

Non-Cash Items

Non-cash transactions excluded from the Consolidated Statements of Cash Flows include $12.7 million and $25.7 million of accrued liabilities related to plant and equipment purchases as of June 30, 2022, and 2021, respectively.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, 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.

Subsequent Events

MIT has evaluated subsequent events through October 7, 2022, the date on which the financial statements were issued. There were no subsequent events that occurred after the balance sheet date that have a material impact on MIT's financial statements.

Related Parties

MIT has a number of related-party entities, the majority of which are consolidated in MIT's financial statements. There are three categories of related-party entities that are not consolidated in MIT's financial statements, and those are further described here. The first category is non-investment entities with an education or research-based mission. These entities are all U.S. corporations. Income from administration or other services provided to these entities is included as other revenue in the Consolidated Statement of Activities, and related costs are included as supplies and services or subrecipient expenses. Second are trusts for the benefit of employees that are managed by or under the trusteeship of MIT management. The assets of these U.S. trusts offset the projected benefit obligations of the defined benefit pension and retiree welfare retirement plans to arrive at the net funded status of each plan, both of which are shown on separate line items on the Consolidated Statements of Financial Position. Please refer to footnote I for further details.

Third are investment entities for which MIT invests in their equity securities. These entities are limited partnership or equivalent entities located in both the U.S. and internationally. The Institute recognizes these investments at fair value in investments on the Consolidated Statements of Financial Position and in net return on investments in the Consolidated Statement of Activities. Please refer to footnote B for further details.

MIT-related parties also include Executive Committee members and senior management, their family members, and any entities with which they are associated that may do business with MIT. Transactions between MIT and members of the Executive Committee or senior management can include loans from MIT reported as investments or accounts receivable. Family members of these individuals may at times receive payments from MIT in the form of grants or compensation. There may also be transactions in the ordinary course of business between MIT and companies with which these individuals have a relationship.

Summarized Information

The Consolidated Statement of Activities includes certain prior year summarized comparative information in total, but not by net asset class. Such information does not include sufficient detail to constitute a presentation in conformity with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with MIT's financial statements for the year ended June 30, 2021, from which the summarized information was derived.

B. Investments

Investments are presented at fair value in accordance with GAAP.

Cash and short-term investments include cash, money market funds, repurchase agreements, and negotiable certificates of deposit, and are valued at cost, which approximates fair value. Instruments listed or traded on a securities exchange are valued at the last quoted price on the primary exchange where the securities are traded.

Over-the-counter positions, such as interest rate and total return swaps, credit default swaps, options, exchange agreements, and interest rate cap and floor agreements, are valued using broker quotes or models using market-observable inputs.

Investments in non-exchange-traded debt are primarily valued using independent pricing sources that use broker quotes or models using observable market inputs.

Investments managed by external managers include those in (i) absolute return; (ii) domestic, foreign, and private equity; (iii) real estate; and (iv) real asset commingled funds. The fair value of securities held in external investment funds that do not have readily determinable fair values are determined by the external managers based upon industry-standard valuation approaches that require varying degrees of judgment, taking into consideration, among other things: the cost of the securities, valuations, and transactions of comparable public companies; the securities' estimated future cash flow streams; and the prices of recent significant placements of securities of the same issuer. Using these valuations, most of these external managers calculate MIT's capital account or net asset value (NAV) in accordance with, or in a manner consistent with, GAAP's fair value principles.

As a practical expedient, MIT is permitted under GAAP to estimate the fair value of its investments with external managers using the external managers' reported NAV without further adjustment, unless MIT expects to sell the investment at a value other than NAV or the NAV is not calculated in accordance with GAAP.

MIT has elected to measure certain equity securities (those without a readily determinable fair value that do not qualify to use NAV as a practical expedient) at cost or fair value on the date of investment less impairment, adjusted for changes in observable prices of the same issuer (the "measurement alternative"). The election to apply the measurement alternative is applied on a security-by-security basis. MIT reassesses whether these investments qualify for the measurement alternative and performs an impairment analysis on an annual basis.

As of June 30, 2022, and 2021, MIT held $236.2 million and $235.6 million, respectively, of investments that are valued using the measurement alternative. These investments are included within Level 3 of the fair value hierarchy table. There have been no impairment adjustments or observable price changes recognized.

Split-interest agreements are generally valued at the present value of the future distributions expected to be received over the term of the agreement.

MIT performs ongoing due diligence to determine that the fair value of investments is reasonable. In particular, to ensure that the valuation techniques for investments that are categorized within the fair value hierarchy are fair, consistent, and verifiable, MIT has established a Valuation Committee ("the Committee") that oversees the valuation processes and procedures and ensures that the policies are fair and consistently applied. The Committee is responsible for conducting annual reviews of the valuation policies and evaluating the overall fairness and consistent application of the valuation policies. The Committee reviews external manager due diligence to substantiate the use of NAV as a practical expedient for estimates of fair value for externally managed funds. The Committee is comprised of senior personnel with members who are independent of investment functions. The Committee meets biannually, or more frequently as needed. Members of the Committee report annually to MIT's Risk and Audit Committee.

The methods described in this note may produce a fair value that may not be indicative of net realizable value or reflective of future fair values. While MIT believes its valuation methods are appropriate and consistent with those of other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different estimate of fair value at the reporting date.

MIT leverages certain real estate investments to optimize the use of invested capital in support of the Institute's mission. The liabilities associated with these financings are presented, on a net basis, with the investment balances on the associated real estate asset found in Table 5. The liabilities associated with real estate investments were $1,324.4 million and $716.4 million in fiscal 2022 and fiscal 2021, respectively. MIT's real estate subsidiaries are separate legal entities, whose assets and credit are not available to satisfy the liabilities of MIT as a stand-alone entity. Also, the liabilities of MIT's subsidiaries do not constitute obligations of MIT as a stand-alone entity.

MIT may enter into short sales whereby it sells securities that may or may not be owned by MIT in anticipation of a decline in the price of such securities or in order to hedge portfolio positions. Cash collateral and certain securities owned by MIT may be held at counterparty brokers to collateralize these positions and are included in investments on the Consolidated Statements of Financial Position and in restricted cash included in investments on the Consolidated Statements of Cash Flows.

B. Investments (continued)

GAAP establishes a hierarchy of valuation inputs based on the extent to which the inputs are observable in the marketplace. Observable inputs reflect market data obtained from sources independent of the reporting entity. Unobservable inputs reflect the entity's own assumptions about how market participants would value an asset or liability based on the best information available. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. MIT follows a fair value hierarchy based on three levels of inputs, of which the first two are considered observable and the last is considered unobservable.

The following describes the hierarchy of inputs used to measure fair value and the primary valuation methodologies used by MIT for financial instruments measured at fair value on a recurring basis. The three levels of inputs are as follows:

- Level 1 – Valuations based upon observable inputs that reflect quoted prices in active markets for identical assets and liabilities.
- Level 2 – Valuations based upon: (i) quoted market prices for similar assets or liabilities in active markets; (ii) quoted prices for identical or similar assets or liabilities in markets that are not active; or (iii) other significant market-based inputs that are observable, either directly or indirectly.
- Level 3 – Valuations based upon unobservable inputs that are significant to the overall fair value measurements. Level 3 investments are valued by MIT based upon valuation information received from the relevant entity, which may include last trade information, third-party appraisals of real estate, or valuations prepared in connection with the administration of an employee stock ownership plan. MIT may also utilize industry-standard valuation techniques, including discounted cash flow models. The significant unobservable inputs used in the fair value measurements of MIT's direct investments may include their cost of capital, equity, and industry risk premiums, and for construction under development in Kendall Square, discounts related to completion.

Investments managed by external managers in fund structures are not readily marketable and are reported at fair value utilizing the most current information provided by the external manager, subject to assessments that the information is representative of fair value and in consideration of any factors deemed pertinent to the fair value measurement. These investments are shown in the NAV column of Table 5.

A financial instrument's categorization within the valuation hierarchy is based upon the lowest level of input that is significant to its fair value measurement. Market information is considered when determining the proper categorization of the investment's fair value measurement within the fair valuation hierarchy.

B. Investments (continued)

Table 5 presents MIT's investments at fair value as of June 30, 2022, and 2021, respectively, grouped by the valuation hierarchy described herein. All net realized and unrealized gains and losses relating to financial instruments held by MIT included in Table 5 are reflected in the Consolidated Statement of Activities. Cumulative unrealized gains related to Level 3 investments totaled $2,668.0 million and $1,999.4 million as of June 30, 2022, and 2021, respectively.

TABLE 5. INVESTMENTS

(in thousands of dollars)	Level 1	Level 2	Level 3	NAV	Total Fair Value
Fiscal Year 2022					
Cash and short-term investments	$ 437,314	$ -	$ -	$ -	$ 437,314
US Treasury	2,268,472	-	-	-	2,268,472
US government agency	-	30,087	-	-	30,087
Domestic bonds	28,330	1,038,067	127,650	-	1,194,047
Foreign bonds	101,352	327,075	-	-	428,427
Common equity:					
Domestic	157,741	-	236,320	-	394,061
Foreign	1,198,950	55,941	15,398	-	1,270,289
Equity:**					
Absolute return	-	-	-	5,008,840	5,008,840
Domestic	-	-	-	2,238,425	2,238,425
Foreign	-	-	-	2,640,950	2,640,950
Private	-	-	-	11,028,666	11,028,666
Real estate*	1,937	-	3,884,874	1,374,864	5,261,675
Real assets*	5,029	-	317	237,927	243,273
Split-interest agreements	-	-	80,970	-	80,970
Other	-	-	19,720	-	19,720
Derivatives, assets/(liabilities)	92	3,323	-	-	3,415
Investments, at fair value	**$ 4,199,217**	**$ 1,454,493**	**$ 4,365,249**	**$ 22,529,672**	**$ 32,548,631**
Fiscal Year 2021					
Cash and short-term investments	$ 441,646	$ -	$ -	$ -	$ 441,646
US Treasury	2,481,174	-	-	-	2,481,174
US government agency	-	77,445	-	-	77,445
Domestic bonds	10,187	888,329	119,092	-	1,017,608
Foreign bonds	676	82,445	-	-	83,121
Common equity:					
Domestic	295,858	1	234,757	-	530,616
Foreign	948,655	-	87,539	-	1,036,194
Equity:**					
Absolute return	-	-	-	5,742,657	5,742,657
Domestic	-	-	-	3,158,017	3,158,017
Foreign	-	-	-	3,848,479	3,848,479
Private	-	-	-	11,658,356	11,658,356
Real estate*	2,397	-	3,321,213	1,054,112	4,377,722
Real assets*	9,287	-	313	235,127	244,727
Split-interest agreements	-	-	89,999	-	89,999
Other	-	-	6,445	-	6,445
Derivatives, assets/(liabilities)	(84)	(684)	-	-	(768)
Investments, at fair value	**$ 4,189,796**	**$ 1,047,536**	**$ 3,859,358**	**$ 25,696,748**	**$ 34,793,438**

** Includes direct investments and investments held through commingled vehicles.*

*** Includes commingled vehicles that invest in these types of investments.*

B. Investments (continued)

Table 6 below is a rollforward of the investments classified by MIT within Level 3 of the fair value hierarchy defined earlier in this note as of June 30, 2022, and 2021.

TABLE 6. ROLLFORWARD OF LEVEL 3 INVESTMENTS

(in thousands of dollars)	Fair Value Beginning	Realized Gains (Losses)	Unrealized Gains (Losses)	Purchases	Sales	Other Changes and Transfers	Fair Value Ending
Fiscal Year 2022							
Domestic bonds	$ 119,092	$ 3	$ (3)	$ 18,449	$ (9,891)	$ -	$ 127,650
Common equity:							
Domestic	234,757	-	2,031	-	-	(468)	236,320
Foreign	87,539	(5)	(39,421)	18,195	(47)	(50,863)	15,398
Real estate	3,321,213	1,203	704,801	477,377	(90)	(619,630)	3,884,874
Real assets	313	-	4	-	-	-	317
Split-interest agreements	89,999	-	(9,103)	-	(346)	420	80,970
Other	6,445	1,601	9,486	3,900	(1,712)	-	19,720
Investments, at fair value	**$ 3,859,358**	**$ 2,802**	**$ 667,795**	**$ 517,921**	**$ (12,086)**	**$ (670,541)**	**$ 4,365,249**
Fiscal Year 2021							
Domestic bonds	$ 113,689	$ -	$ 12	$ 17,436	$ (12,045)	$ -	$ 119,092
Common equity:							
Domestic	234,413	58	119	225	(58)	-	234,757
Foreign	13,502	-	39,906	34,131	-	-	87,539
Real estate	2,884,164	38,501	397,440	520,286	(108,918)	(410,260)	3,321,213
Real assets	356	-	(43)	-	-	-	313
Split-interest agreements	78,322	-	13,092	58	(1,473)	-	89,999
Other	2,507	-	(62)	4,000	-	-	6,445
Investments, at fair value	**$ 3,326,953**	**$ 38,559**	**$ 450,464**	**$ 576,136**	**$ (122,494)**	**$ (410,260)**	**$ 3,859,358**

Table 7 below sets forth a summary of valuation techniques and quantitative information utilized in determining the fair value of MIT's Level 3 investments as of June 30, 2022, and 2021.

TABLE 7. LEVEL 3 VALUATION TECHNIQUES

(in thousands of dollars)	Fair Value as of June 30, 2022	Fair Value as of June 30, 2021	Valuation Technique	Unobservable Input	2022 Rates	2022 Weighted Average	2021 Rates	2021 Weighted Average
Real estate	$ 4,372,209	$ 3,019,511	Income approach	Discount Rate	4.25-7.5%	6.12%	4.5-7.75%	6.38%
				Capitalization Rate	3.75-7.05%	4.45%	3.0-6.5%	4.98%
				Terminal Capitalization Rate	4-6.5%	4.93%	4.25-7.0%	5.44%
	229,935	224,638	Market approach	Comparable Sale Transactions	$165-365/FAR	$293/FAR	$155-360/FAR	$287/FAR
Equity securities	223,585	279,321	Discounted cash flow	Discount Rate	12.50%	12.5%	12.50%	12.50%
			Last round of financing	N/A	N/A	N/A	N/A	N/A
Split-interest agreements	80,970	89,999	Net present value	Discount Rate	3.85%	3.85%	1.45%	1.45%
Real assets	317	313	Discounted cash flow	Discount Rate	25.0%	25.0%	25.0%	25.0%
Total assets	**$ 4,907,016**	**$ 3,613,782**						

Certain Level 3 investments and debt totaling ($541,767) and $245,576 as of June 30, 2022, and June 30, 2021, respectively, have been valued at cost or using unadjusted third-party quotations and thus have been excluded from this table.

B. Investments (continued)

MIT has made commitments to make periodic contributions in future periods to investments managed by external managers, and certain of these investments may be subject to restrictions that: (i) limit MIT's ability to withdraw capital after such investment; and (ii) may limit the amount that may be withdrawn as of a given redemption date due to notice periods, lock-ups, and gates. Most absolute return, domestic equity, and foreign equity commingled funds limit withdrawals to monthly, quarterly, or other periods, and may require notice periods. In addition, some of these funds are able to designate a portion of the investments as illiquid in "side-pockets," and these funds may not be available for withdrawal until liquidated by the investing fund. For the funds where MIT's ability to withdraw capital is limited, primarily with private equity, real estate, and real asset funds, distributions are made when sales of assets are made within these funds and the investment cycle for these funds can be as long as 15 to 20 years. These restrictions may limit MIT's ability to respond quickly to changes in market conditions. However, MIT does have various sources of liquidity at its disposal. Refer to footnote E for further details. Details on the remaining unfunded commitments and current redemption terms and restrictions by asset class and type of investment are provided below in Table 8 as of June 30, 2022, and 2021.

TABLE 8. UNFUNDED COMMITMENTS AND REDEMPTON TERMS AND RESTRICTIONS

	2022		2021			
(in thousands of dollars)	Unfunded Commitments	Fair Value	Unfunded Commitments	Fair Value	Redemption Terms	Days Notice
Equity:						
Absolute return[1]	$ 63,678	$ 5,008,840	$ 56,999	$ 5,742,657	Range from daily to 48 months[4]	0 to 365 days
Domestic[2]	52,685	2,238,425	52,723	3,158,017	Range from 30 days to 48 months[4]	5 to 120 days
Foreign[3]	1,200	2,640,950	-	3,848,479	Range from daily to 48 months[4]	1 to 180 days
Private	3,380,446	11,028,666	2,850,260	11,658,356	Close-ended funds not available for redemption	Not Applicable
Real estate	719,327	1,374,864	795,235	1,054,112	Close-ended funds not available for redemption	Not Applicable
Real assets	35,663	237,927	64,530	235,127	37 months[4]	Lock-up provisions range from 30 days to not redeemable
Total	**$ 4,252,999**	**$ 22,529,672**	**$ 3,819,747**	**$ 25,696,748**		

[1]*Absolute return funds include funds that have remaining lock-up provisions up to 56 months.*

[2]*Domestic funds include funds that have remaining lock-up provisions up to 33 months.*

[3]*Foreign funds include funds that have remaining lock-up provisions up to 32 months.*

[4] *Includes funds that are not available for redemption.*

C. Derivative Financial Instruments and Collateral

For its investment management, MIT uses a variety of financial instruments with off-balance sheet risk involving contractual or optional commitments for future settlement. MIT uses these instruments primarily to manage or hedge its exposure to extreme market events and fluctuations in asset classes or currencies. Instruments utilized include fixed income, currency and equity futures, options, and swaps. The risks of these instruments, to varying degrees, include the possibility for imperfect correlation between the change in the market value of assets being hedged and the prices of the derivative or hedge instruments, interest, credit market, liquidity, and counterparty risk.

To manage the counterparty risk, MIT requires collateral to the maximum extent possible under normal trading practices. Collateral is moved on a daily basis as required by fluctuations in the market. The collateral is generally in the form of debt obligations issued by the US Treasury or cash. In the event of counterparty default, MIT has the right to use the collateral to offset the loss associated with the replacement of the agreements. Maximum risk of loss from counterparty credit risk on over-the-counter derivatives is generally the aggregate unrealized appreciation in excess of any collateral pledged by the counterparty. ISDA (International Swaps and Derivatives Association) Master Agreements under which many derivatives are traded allow MIT or the counterparties to an over-the-counter derivative to terminate the contract prior to maturity in the event either party fails to meet the terms in the ISDA Master Agreements. This would cause an accelerated payment of net liability, if owed to the counterparty.

MIT enters into arrangements only with counterparties believed to be creditworthy. On June 30, 2022, and 2021, cash collateral and certain securities owned by MIT were held at counterparty brokers to collateralize these positions and are included in investments in the Consolidated Statements of Financial Position.

Derivatives held by limited partnerships and commingled investment vehicles pose no off-balance sheet risk to MIT due to the limited liability structure of these investments.

Cumulative net gains related to derivatives totaled $184.9 million for the year ended June 30, 2022. Cumulative net losses related to derivatives totaled $36.7 million for the year ended June 30, 2021.

D. Pledges Receivable

Table 9 below shows the time periods in which pledges receivable as of June 30, 2022, and 2021, are expected to be realized.

TABLE 9. PLEDGES RECEIVABLE

(in thousands of dollars)	2022	2021
In one year or less	$ 325,612	$ 352,658
Between one year and five years	313,267	250,565
More than five years	61,526	89,472
Less: allowance for unfulfilled pledges	(115,402)	(121,427)
Pledges receivable, net	**$ 585,003**	**$ 571,268**

A review of pledges is periodically made with regard to collectability. As a result, the allowance for unfulfilled pledges is adjusted, and some pledges have been cancelled and are no longer recorded in the financial statements.

Pledges were discounted in the amount of $78.3 million and $26.4 million in 2022 and 2021, respectively. The pledge discount rate ranged from fiscal 2022 at 2.8 percent to fiscal 2044 at 4.1 percent. MIT had gross conditional pledges, not recorded, for the promotion of education and research of $298.8 million and $353.6 million in fiscal 2022 and 2021, respectively. Conditional pledges are categorized as follows: fundraising challenge, building construction progress, foundation grants, and other.

Table 10 below shows the breakout of conditional pledge amounts as of June 30, 2022, and 2021.

TABLE 10. CONDITIONAL PLEDGES

(in thousands of dollars)	2022	2021
Building Construction	$ 124,495	$ 135,985
Fundraising Challenge	100,380	140,970
Foundation Grants	59,760	52,600
Other	14,159	23,959
Total conditional pledges	**$ 298,794**	**$ 353,514**

Table 11 below is a rollforward of pledges receivable as of June 30, 2022, and 2021.

TABLE 11. ROLLFORWARD OF PLEDGES RECEIVABLE

(in thousands of dollars)	2022	2021
Balance at beginning of the year	$ 571,268	$ 620,340
New pledges	303,056	192,190
Pledge payments received	(243,443)	(190,585)
Change in pledge discount	(51,902)	2,110
Change in allowance for unfulfilled pledges	6,024	(52,787)
Balance at the end of the year	**$ 585,003**	**$ 571,268**

E. Liquidity

Table 12 below details the Institute's financial assets and resources available to meet cash needs for general expenditures within one year of the date of the Consolidated Statements of Financial Position.

TABLE 12. LIQUIDITY AND AVAILABILITY OF RESOURCES

(in thousands of dollars)	2022	2021
Financial assets:		
Cash and liquid operating investments	$ 3,020,767	$ 2,327,158
Accounts and notes receivable	379,812	340,265
Contributions receivable	170,826	174,392
Investments appropriated for spending in the following year	1,221,656	928,214
Total financial assets available within one year	**$ 4,793,061**	**$ 3,770,029**

As part of the MIT's liquidity management strategy, financial assets are structured to be available as its general expenditures, liabilities, and other obligations come due. MIT invests its working capital, which is comprised of cash and capital project funds in excess of daily requirements, in various investment vehicles. To help manage unanticipated liquidity needs, MIT also maintains a bank line of credit for $500.0 million, of which $387.0 million was undrawn as of both June 30, 2022, and June 30, 2021 (see Note F for further details on the line of credit).

F. Net Borrowings

MIT’s outstanding borrowings as of June 30, 2022, and 2021, are shown in Table 13 below.

TABLE 13. NET BORROWINGS

(in thousands of dollars / due dates are calendar based / par values)	2022	2021
Educational plant		
Massachusetts Health and Educational Facilities Authority (MassDevelopment)		
Series I, 5.20%, due 2028, par value $30,000	$ 30,316	$ 30,374
Series J-1, variable rate, due 2031, par value $125,000	125,000	125,000
Series J-2 variable rate, due 2031, par value $125,000	125,000	125,000
Series K, 5.5%, due 2022-2032, par value $177,000	181,900	182,600
Series L, 5.0%-5.25%, due 2023-2033, par value $115,670	120,003	120,588
Series M, 5.25%, due 2022-2030, par value $68,760	71,736	84,008
Series P, 5.0%, due 2050, par value $136,055	204,932	207,392
Total MassDevelopment	858,887	874,962
Taxable		
Medium Term Notes Series A, 7.125% due 2026, par value $17,415	17,398	17,394
Medium Term Notes Series A, 7.25%, due 2096, par value $45,604	45,480	45,476
Taxable Bonds, Series B, 5.60%, due 2111, par value $750,000	747,238	747,207
Taxable Bonds, Series C, 4.678%, due 2114, par value $550,000	550,000	550,000
Taxable Bonds, Series D, 2.051-3.959%, due 2026-2038, par value $456,000	456,000	456,000
Taxable Bonds, Series E, 3.885%, due 2116, par value $500,000	500,000	500,000
Taxable Bonds, Series F, 2.989%, due 2050, par value $525,000	548,225	300,000
Taxable Bonds, Series G, 2.294% due 2051, par value 350,000	350,000	350,000
Taxable Bonds, Series H, 3.067% due 2052, par value 500,000	500,000	-
Notes payable to bank, variable rate, due 2023	113,035	113,034
Total Taxable	3,827,376	3,079,111
Total borrowings*	4,686,263	3,954,073
Unamortized bond issuance costs	(29,213)	(25,039)
Total borrowings net of unamortized debt issuance costs	**$ 4,657,050**	**$ 3,929,034**

** Proceeds from recent issuances were in the process of being invested in physical assets in 2021 and 2022 with unused balances held in investments.*

F. Net Borrowings (continued)

The aggregate amounts of debt payments and sinking fund requirements for each of the next five fiscal years are shown in Table 14 below.

TABLE 14. DEBT PRINCIPAL OBLIGATIONS

(in thousands of dollars)		
2023	$	55,500
2024		51,455
2025		12,385
2026		116,445
2027*		-

*Please note that there is no amount required to be paid in fiscal 2027

MIT maintains a line of credit with a major financial institution for an aggregate commitment of $500.0 million. As of June 30, 2022, $387.0 million was available under this line of credit. The line of credit expires on March 31, 2023.

Cash paid for interest on long-term debt in 2022 and 2021 was $164.9 million and $163.1 million, respectively.

Variable interest rates as of June 30, 2022, are shown in Table 15 below.

TABLE 15. VARIABLE INTEREST RATES

(in thousands of dollars)		Amount	Rate
MassDevelopment Series J-1	$	125,000	0.21%
MassDevelopment Series J-2		125,000	0.20%
Notes payable to bank		113,035	0.79%

In the event that MIT receives notice of any optional tender on its Series J-1 and Series J-2 variable-rate bonds, or if these bonds become subject to mandatory tender, the purchase price of the bonds will be paid from the remarketing of such bonds. However, if the remarketing proceeds are insufficient, MIT will be obligated to purchase the bonds tendered at 100.0 percent of par on the tender date. In the event that MIT is obligated to purchase the bonds, cash on hand or liquidation of short-term investments from operating funds would be used as a source of funds.

MIT maintains an interest rate swap agreement to manage the interest cost and risk associated with a portion of the variable rate debt included in Table 15 above. Under the agreement, MIT pays a fixed rate of 4.91 percent and receives a payment indexed to the Securities Industry and Financial Market Association (SIFMA) index on a notional amount of $125.0 million. The notional amount of this derivative is not recorded on MIT's Consolidated Statements of Financial Position. As of June 30, 2022, and 2021, the swap agreement had fair values of ($25.5) million and ($48.0) million, respectively, included in the accounts payable, accruals, and other liabilities line item on the Statements of Financial Position. This swap had net gains of $22.5 million and $13.0 million in 2022 and 2021, respectively.

G. Commitments and Contingencies

Federal Government Funding

MIT receives funding or reimbursement from federal agencies for sponsored programs under government grants and contracts. These grants and contracts provide for reimbursement of indirect costs. MIT's indirect cost reimbursements for sponsored research activities are based on rates negotiated with the Office of Naval Research (ONR), MIT's cognizant federal agency. Indirect research rates are based on fixed rates with carryforward of under- or over-recoveries. MIT recorded a net under-recovery of $75.1 million and $37.8 million as of June 30, 2022, and 2021, respectively.

The DCAA is responsible for auditing indirect charges to research grants and contracts in support of ONR's negotiating responsibility. The Institute's rates have been audited by DCAA through fiscal 2020, and the audit for fiscal 2021 is in progress. ONR has completed negotiations of final rates through fiscal 2019 and forward pricing rates through fiscal 2024.

Leases

The Institute is the lessee of space under operating (rental) leases with contractual terms longer than twelve months. The Institute determines whether a contract is a lease at inception. Identified leases are subsequently measured, classified, and recognized at lease commencement. The Institute's leases generally have terms that range from one to fifteen years for property, with certain leases inclusive of renewal options if they are considered to be reasonably assured at lease commencement. Right-of-use assets and lease liabilities for operating leases are included in Operating leases—right-of-use assets line item and Operating lease liabilities line item, respectively, in the Consolidated Statements of Financial Position. Lease assets represent our right to use an underlying asset for the lease term, and lease liabilities represent our obligation to make lease payments arising from the lease.

Operating lease right-of-use assets and associated lease liabilities are recognized based on the present value of future minimum lease payments to be made over the expected lease term, using the incremental borrowing rate at the commencement date in determining the present value of future payments. Rent expense related to operating leases, including short-term leases, was $40.5 million and $37.3 million in fiscal 2022 and fiscal 2021, respectively.

Future minimum lease payments and reconciliation to the Consolidated Statements of Financial Position as of June 30, 2022, are as follows:

TABLE 16. ANNUAL MINIMUM LEASE

(in thousands of dollars)

2023	$	43,353
2024		40,860
2025		38,716
2026		35,978
2027		36,918
Thereafter		60,441
Total minimum lease payments		256,266
Less: Amount representing interest		(10,183)
Present value of net minimum lease payments	$	246,083

The lease cost and other required information for the year ended June 30, 2022, are:

TABLE 17. QUANTITATIVE DISCLOSURES

(in thousands of dollars)	2022	2021
Accretion of the Lease Liability	$ 35,957	$ 39,335
Operating Cash Flows from Operating Leases	$ 39,192	$ 36,307
Weighted Average Remaining Lease Term in Years	7.0	7.8
Weighted Average Discount Rate	1.1%	1.1%

Assets Pledged as Collateral

As of June 30, 2022, $13.4 million of assets was pledged as collateral to various suppliers and government agencies. This is classified as restricted cash on the Consolidated Statements of Cash Flows.

G. Commitments and Contingencies (continued)

Future Construction

As of June 30, 2022, MIT had contractual obligations of approximately $692.2 million in connection with educational plant construction projects. It is expected that the resources to satisfy these commitments will be provided from unexpended plant funds, anticipated gifts, bond proceeds, and funds without donor restrictions.

MIT has also made commitments related to the development of its commercial real estate holdings in Kendall Square and to the enhancement of its East Campus gateway. As of June 30, 2022, these commitments included approximately $81.4 million of contractual obligations related to the Kendall Square Initiative, and $47.4 million related to other commercial real estate projects. In addition, MIT and the federal government have entered into an agreement whereby MIT will construct a new transportation center on four of the 14 acres of federally owned land located at the John A. Volpe National Transportation Systems Center site in Kendall Square in exchange for the fee interest to and the right to redevelop the adjacent ten acres of land. The exchange will be executed upon completion of the construction of the new facility. MIT is committed to investing $750.0 million in the exchange phase of the project. Costs incurred for construction of the new facility, which are included in investments, were $173.5 million and $124.5 million in fiscal 2022 and fiscal 2021, respectively.

General

MIT has entered into agreements, including collaborations with third-party not-for-profit and for-profit entities, for education, research, and technology transfers. Some of these agreements involve funding from foreign governments. These agreements subject MIT to greater financial risk than do its normal operations. In the opinion of management, the likelihood of realization of increased financial risks by MIT under these agreements is remote.

MIT is subject to certain other legal proceedings and claims that arise in the normal course of operations. In the opinion of management, the ultimate outcome of these actions will not have a material effect on MIT's financial position.

H. Functional Expense Classification

MIT's expenditures on a functional basis for the years ended June 30, 2022, and 2021, are shown in Table 18 below.

TABLE 18. EXPENDITURES BY FUNCTIONAL CLASSIFICATION

(in thousands of dollars)	General and administrative	Instruction and unsponsored research	Sponsored research	Total
Fiscal Year 2022				
Compensation	$ 527,319	$ 619,460	$ 965,145	$ 2,111,924
Other operating	187,646	441,216	657,726	1,286,588
Space-related	175,515	212,215	207,086	594,816
2022 Total	**$ 890,480**	**$ 1,272,891**	**$ 1,829,957**	**$ 3,993,328**
Fiscal Year 2021				
Compensation	$ 515,995	$ 600,591	$ 943,368	$ 2,059,954
Other operating	115,215	382,495	609,081	1,106,791
Space-related	142,597	194,350	225,033	561,980
2021 Total	**$ 773,807**	**$ 1,177,436**	**$ 1,777,482**	**$ 3,728,725**

Expenses are presented by functional classification in alignment with the overall mission of the Institute. Each functional classification displays all expenses related to the underlying operation by natural classification. Natural expenses attributable to more than one functional expense category are allocated using reasonable cost allocation techniques. Depreciation and utilities, rent, and repair expenses are allocated directly and/or based on square footage. Interest expense on indebtedness is allocated to the functional categories that have benefited from the proceeds of the associated debt.

I. Retirement Benefits

MIT offers a defined benefit pension plan and a defined contribution plan to its employees. The plans cover substantially all MIT employees.

MIT also offers a retiree welfare benefit plan (certain healthcare and life insurance benefits) for retired employees. Substantially all MIT employees may become eligible for those benefits if they reach a qualifying retirement age while working for MIT. The healthcare component of the welfare plan is paid for in part by retirees, their covered dependents, and beneficiaries. Benefits are provided through various insurance companies whose charges are based either on the claims and administrative expenses paid during the year or annual insured premiums. The life insurance component of the welfare plan includes basic life insurance and supplemental life insurance. The basic life insurance plan is non-contributory and covers the retiree only. The supplemental life insurance plan is paid for by the retiree. MIT maintains a trust to pay for the retiree welfare benefit plan.

MIT contributes to the defined benefit pension plan amounts that are actuarially determined to provide the retirement plan with sufficient assets to meet future benefit requirements. There were no designated contributions to the defined benefit pension plan for 2022 and 2021. MIT designated contributions of $2.4 million to the retiree welfare benefit plan in 2021. There were no designated contributions to the retiree welfare benefit welfare benefit plan in 2022.

For the defined contribution plan, the amounts contributed and expenses recognized during 2022 and 2021 were $71.5 million and $68.9 million, respectively.

For purposes of calculating net periodic benefit cost, plan amendments for the defined benefit pension plan are amortized on a straight-line basis over the average future service of active participants at the date of the amendment. Plan amendments to the retiree welfare benefit plan are amortized on a straight-line basis over the average future service to full eligibility of active participants at the date of amendment.

Cumulative gains and losses (including changes in assumptions) in excess of 10 percent of the greater of the projected benefit obligation or the market-related value of assets for both the defined benefit pension plan and the retiree welfare benefit plan are amortized over the average future service of active participants. Beginning July 1, 2022, MIT will further accelerate recognition of cumulative gains or losses to the extent that the unrecognized balance partially or fully offsets the preliminary net periodic benefit cost or income calculated prior to this accelerated amount. In no event shall the annual amortization be less than the total amount of unrecognized gains and losses up to $1.0 million.

I. Retirement Benefits (continued)

Components of Net Periodic Benefit Cost

Table 19 below summarizes the components of net periodic benefit cost recognized in net results and other amounts recognized in other revenues, gains, and losses in net assets without donor restrictions for the years ended June 30, 2022, and 2021.

TABLE 19. COMPONENTS OF NET PERIODIC BENEFIT COST AND OTHER AMOUNTS RECOGNIZED IN OTHER REVENUES, GAINS, AND LOSSES

	Defined Benefit Pension Plan		Retiree Welfare Benefit Plan	
(in thousands of dollars)	2022	2021	2022	2021
Components of net periodic benefit cost recognized in net results:				
Service cost	$ 152,837	$ 129,749	$ 33,299	$ 33,819
Interest cost	178,186	163,467	23,700	23,562
Expected return on plan assets	(360,746)	(312,083)	(62,585)	(54,000)
Amortization of net actuarial loss (gain)	33,431	44,534	(10,269)	(1,000)
Amortization of prior service cost	347	265	-	-
Net periodic benefit cost (income) recognized in net results	4,055	25,932	(15,855)	2,381
Other amounts recognized in other revenues, gains, and losses				
Current year prior service cost	-	890	14,308	-
Current year actuarial loss (gain)	597,273	(1,484,305)	118,062	(348,077)
Amortization of actuarial (loss) gain	(33,431)	(44,534)	10,269	1,000
Amortization of prior service (cost)	(347)	(265)	-	-
Total other amounts recognized in other revenues, gains, and losses	563,495	(1,528,214)	142,639	(347,077)
Total recognized	**$ 567,550**	**$ (1,502,282)**	**$ 126,784**	**$ (344,696)**

Cumulative amounts recognized in net assets without donor restrictions are summarized in Table 20 below for the years ended June 30, 2022, and 2021.

TABLE 20. CUMULATIVE AMOUNTS RECOGNIZED IN NET ASSETS WITHOUT DONOR RESTRICTION

	Defined Benefit Pension Plan		Retiree Welfare Benefit Plan	
(in thousands of dollars)	2022	2021	2022	2021
Amounts recognized in unrestricted net assets without donor restrictions consist of:				
Net actuarial (gain)	$ (165,162)	$ (729,003)	$ (310,417)	$ (438,748)
Prior service cost	2,597	2,943	14,308	-
Total cumulative amounts recognized in net assets without donor restrictions	**$ (162,565)**	**$ (726,060)**	**$ (296,109)**	**$ (438,748)**

I. Retirement Benefits (continued)

Benefit Obligations and Fair Value of Assets

Table 21 below summarizes the benefit obligations, plan assets, and amounts recognized in the Consolidated Statements of Financial Position for MIT's retirement benefit plans. MIT uses a June 30 measurement date for its defined benefit pension plan and retiree welfare benefit plan.

The projected benefit obligation for the defined benefit pension plan, as shown in Table 21, was $5,074.7 million and $5,429.6 million as of June 30, 2022, and 2021, respectively. Another measure of the plan's liabilities is the accumulated benefit obligation. While the projected benefit obligation factors in future salary increases, the accumulated benefit obligation does not. The accumulated benefit obligation of MIT's defined benefit pension plan was $4,878.3 million and $5,131.3 million as of June 30, 2022, and 2021, respectively.

MIT provides retiree drug coverage through an Employer Group Waiver Plan (EGWP). Under EGWP, the cost of drug coverage is offset through direct federal subsidies, brand-name drug discounts, and reinsurance reimbursements.

TABLE 21. PROJECTED BENEFIT OBLIGATIONS AND FAIR VALUE OF ASSETS

	Defined Benefit Pension Plan		Retiree Welfare Benefit Plan	
(in thousands of dollars)	2022	2021	2022	2021
Change in projected benefit obligations:				
Projected benefit obligations at beginning of year	$ 5,429,577	$ 4,829,967	$ 663,180	$ 668,473
Service cost	152,837	129,749	33,299	33,819
Interest cost	178,186	163,467	23,700	23,562
Retiree contributions	-	-	9,966	8,949
Net benefit payments, transfers, and other expenses	(185,550)	(160,548)	(42,698)	(39,151)
Employer Group Waiver Plan (EGWP) reimbursement	-	-	10,197	9,176
Plan amendments	-	890	14,308	-
Assumption changes and actuarial net (gain) loss	(500,313)	466,052	(71,903)	(41,648)
Projected benefit obligations at end of the year	5,074,737	5,429,577	640,049	663,180
Change in plan assets:				
Fair value of plan assets at beginning of the year	6,379,991	4,278,099	1,102,330	760,546
Actual return on plan assets	(736,841)	2,262,440	(127,380)	360,429
Employer contributions	-	-	-	2,381
Employer Group Waiver Plan (EGWP) reimbursement	-	-	10,197	9,176
Retiree contributions	-	-	9,966	8,949
Net benefit payments, transfers, and other expenses	(185,550)	(160,548)	(42,698)	(39,151)
Fair value of plan assets at end of the year	5,457,600	6,379,991	952,415	1,102,330
Funded status at end of the year	**382,863**	**950,414**	**312,366**	**439,150**
Amounts recognized in the Consolidated Statements of Financial Position consist of:				
Net assets	**$ 382,863**	**$ 950,414**	**$ 312,366**	**$ 439,150**

I. Retirement Benefits (continued)

Assumptions for Financial Parameters and Healthcare Trend Rates

Table 22 below summarizes assumptions and healthcare trend rates. The expected long-term rate-of-return assumption represents the expected average rate of earnings on the funds invested or to be invested, to provide for the benefits included in the benefit obligation. The long-term rate-of-return assumption is determined based on a number of factors, including historical market index returns, the anticipated long-term asset allocation of the plans, historical plan return data, plan expenses, and the potential to outperform market index returns.

TABLE 22. ASSUMPTIONS

	Defined Benefit Pension Plan		Retiree Welfare Benefit Plan	
(in thousands of dollars)	2022	2021	2022	2021
Assumptions used to determine benefit obligation as of June 30:				
Discount rate	4.85%	3.25%	4.96%	3.47%
Rate of compensation increase	5.75%	5.50%		
Pension increases for in-payment benefits	5.25%/2.06%	1.69%		
Assumptions used to determine net periodic benefit cost for the year ended June 30:				
Discount rate	3.25%	3.36%	3.47%	3.42%
Expected long-term return on plan assets	7.75%	7.75%	7.50%	7.50%
Rate of compensation increase*	5.50%	0.00%/5.00%		
Assumed health care cost trend rates:				
Healthcare cost trend rate assumed for next year			7.00%	6.50%
Ultimate health care cost trend rate			5.25%	5.00%
Year the rate reaches the ultimate trend rate			2026	2027

* For determining fiscal 2021 benefit cost, it was assumed that there would be no salary increase or cost-of-living adjustments through 2022; normative rates apply thereafter.

Plan Investments

The investment objectives for the assets of the plans are to minimize expected funding contributions and to meet or exceed the rates of return assumed for plan funding purposes over the long term. The nature and duration of benefit obligations, along with assumptions concerning asset class returns and return correlations, are considered when determining an appropriate asset allocation to achieve the investment objectives.

Investment policies and strategies governing the assets of the plans are designed to achieve investment objectives within prudent risk parameters. Risk management practices include the use of external investment managers, the maintenance of a portfolio diversified by asset class, investment approach, security holdings, and the maintenance of sufficient liquidity to meet benefit obligations as they come due.

I. Retirement Benefits (continued)

Tables 23A and 23B present investments at fair value of MIT's defined benefit pension plan and retiree welfare benefit plan, which are included in net assets available for benefits as of June 30, 2022, and 2021, grouped by the valuation hierarchy detailed in Note B. The investment values in these tables exclude certain items included in the assets and liabilities shown in Table 21.

TABLE 23A. DEFINED BENEFIT PENSION PLAN INVESTMENTS

(in thousands of dollars)	Level 1	Level 2	Level 3	NAV	Total Fair
Fiscal Year 2022					
Cash and short-term investments	$ 169,238	$ -	$ -	$ -	$ 169,238
US Treasury	540,501	-	-	-	540,501
US government agency	-	8,329	-	-	8,329
Domestic bonds	-	9	-	-	9
Common equity:					
Domestic	113,234	-	346	-	113,580
Foreign	262,285	11,887	3,057	-	277,229
Equity:*					
Absolute return	-	-	-	772,179	772,179
Domestic	-	-	-	438,094	438,094
Foreign	-	-	-	672,825	672,825
Private	-	-	-	2,108,178	2,108,178
Real estate*	1,263	-	-	298,418	299,681
Real assets*	-	-	-	60,838	60,838
Other	-	-	3,154	-	3,154
Derivatives	47	1,084	-	-	1,131
Total plan investments assets	**$ 1,086,568**	**$ 21,309**	**$ 6,557**	**$ 4,350,532**	**$ 5,464,966**
Liabilities associated with investments					
Investments sold, but not yet purchased	(14,522)	-	-	-	(14,522)
Other liabilities	(1,476)	(1,546)	-	-	(3,022)
Total plan investment liabilities	**(15,998)**	**(1,546)**	**-**	**-**	**(17,544)**
Total plan investments	**$ 1,070,570**	**$ 19,763**	**$ 6,557**	**$ 4,350,532**	**$ 5,447,422**
Fiscal Year 2021					
Cash and short-term investments	$ 298,777	$ -	$ -	$ -	$ 298,777
US Treasury	444,454	-	-	-	444,454
US government agency	-	17,996	-	-	17,996
Common equity:					
Domestic	139,135	-	74	-	139,209
Foreign	191,030	-	4,214	-	195,244
Equity:*					
Absolute return	-	-	-	939,409	939,409
Domestic	-	-	-	623,980	623,980
Foreign	-	-	-	973,895	973,895
Private	-	-	-	2,493,529	2,493,529
Real estate*	1,755	-	-	243,970	245,725
Real assets*	-	-	-	52,532	52,532
Other	-	-	850	-	850
Derivatives	(6)	-	-	-	(6)
Total plan investments assets	$ 1,075,145	$ 17,996	$ 5,138	$ 5,327,315	$ 6,425,594
Liabilities associated with investments					
Investments sold, but not yet purchased	(53,473)	-	-	-	(53,473)
Other liabilities	(1,276)	(99)	-	-	(1,375)
Total plan investment liabilities	**(54,749)**	**(99)**	**-**	**-**	**(54,848)**
Total plan investments	**$ 1,020,396**	**$ 17,897**	**$ 5,138**	**$ 5,327,315**	**$ 6,370,746**

** Equity, real estate, and real assets categories include commingled vehicles that invest in these types of investments.*

I. Retirement Benefits (continued)

TABLE 23B. RETIREE WELFARE BENEFIT PLAN INVESTMENTS

(in thousands of dollars)	Level 1	Level 2	Level 3	NAV	Total Fair Value
Fiscal Year 2022					
Cash and short-term investments	$ 18,948	$ -	$ -	$ -	$ 18,948
US Treasury	159,334	-	-	-	159,334
US government agency	-	2,893	-	-	2,893
Domestic bonds	-	2	-	-	2
Common equity:					
Domestic	20,106	-	-	-	20,106
Foreign	46,562	2,098	539	-	49,199
Equity:*					
Absolute return	-	-	-	137,190	137,190
Domestic	-	-	-	71,213	71,213
Foreign	-	-	-	118,896	118,896
Private	-	-	-	315,005	315,005
Real estate*	223	-	-	47,109	47,332
Real assets*	-	-	-	8,316	8,316
Other	-	-	557	-	557
Derivatives	8	188	-	-	196
Total plan investment assets	**$ 245,181**	**$ 5,181**	**$ 1,096**	**$ 697,729**	**$ 949,187**
Liabilities associated with investments					
Investments sold, but not yet purchased	(2,563)	-	-	-	(2,563)
Other liabilities	(260)	(273)	-	-	(533)
Total plan investment liabilities	**(2,823)**	**(273)**	**-**	**-**	**(3,096)**
Total plan investments	**242,358**	**4,908**	**1,096**	**697,729**	**946,091**
Fiscal Year 2021					
Cash and short-term investments	$ 47,922	$ -	$ -	$ -	$ 47,922
US Treasury	139,458	-	-	-	139,458
US government agency	-	5,647	-	-	5,647
Common equity:					
Domestic	24,336	-	-	-	24,336
Foreign	33,530	-	744	-	34,274
Equity:*					
Absolute return	-	-	-	179,596	179,596
Domestic	-	-	-	107,345	107,345
Foreign	-	-	-	169,879	169,879
Private	-	-	-	356,184	356,184
Real estate*	310	-	-	35,470	35,780
Real assets*	-	-	-	6,408	6,408
Other	-	-	150	-	150
Derivatives	(2)	-	-	-	(2)
Total plan investment assets	**$ 245,554**	**$ 5,647**	**$ 894**	**$ 854,882**	**$ 1,106,977**
Liabilities associated with investments					
Investments sold, but not yet purchased	(7,597)	-	-	-	(7,597)
Other liabilities	(227)	(54)	-	-	(281)
Total plan investment liabilities	(7,824)	(54)	-	-	(7,878)
Total plan investments	**$ 237,730**	**5,593**	**$ 894**	**$ 854,882**	**1,099,099**

** Equity, real estate, and real assets categories include commingled vehicles that invest in these types of investments.*

I. Retirement Benefits (continued)

The plans have made commitments to make periodic contributions in future periods to investments managed by external managers, and in other cases have entered into contractual arrangements that may limit their ability to initiate redemptions due to notice periods, lock-ups, and gates. Details on the remaining unfunded commitments and current redemption terms and restrictions by asset class and type of investment for both the defined benefit pension plan and retiree welfare benefit plan are provided in Table 24 below as of June 30, 2022, and 2021.

TABLE 24. UNFUNDED COMMITMENTS AND REDEMPTON TERMS AND RESTRICTIONS

	2022		2021			
(in thousands of dollars)	Unfunded Commitments	Fair Value	Unfunded Commitments	Fair Value	Redemption Terms	Days Notice
Defined Benefit Pension Plan						
Equity:						
Absolute return[1]	$ 17,579	$ 772,179	$ 16,173	$ 939,409	Range from 2 months to 48 months[4]	30 to 365 days
Domestic[2]	387	438,094	396	623,980	Range from 4 months to 48 months[4]	90 to 120 days
Foreign[3]	-	672,825	-	973,895	Range from 2 months to 48 months[4]	40 to 91 days
Private	560,217	2,108,178	485,550	2,493,529	Close-ended funds not available for redemption	Not Applicable
Real estate	166,113	298,418	187,033	243,970	Close-ended funds not available for redemption	Not Applicable
Real assets	8,194	60,838	15,180	52,532	Close-ended funds not available for redemption	Not Applicable
Total	**$ 752,490**	**$ 4,350,532**	**$ 704,332**	**$ 5,327,315**		
Retiree Welfare Benefit Plan						
Equity:						
Absolute return[1]	$ 2,468	$ 137,190	$ 2,216	$ 179,596	Range from 2 months to 48 months[4]	30 to 365 days
Domestic[2]	43	71,213	44	107,345	Range from 4 months to 48 months[4]	90 to 120 days
Foreign[3]	-	118,896	-	169,879	Range from 2 months to 48 months[4]	40 to 91 days
Private	92,935	315,005	81,572	356,184	Close-ended funds not available for redemption	Not Applicable
Real estate	26,108	47,109	29,712	35,470	Close-ended funds not available for redemption	Not Applicable
Real assets	1,382	8,316	2,503	6,408	Close-ended funds not available for redemption	Not Applicable
Total	**$ 122,936**	**$ 697,729**	**$ 116,047**	**$ 854,882**		

[1]Absolute return funds include funds that have remaining lock-up provisions up to 56 months.

[2]Domestic funds include funds that have remaining lock-up provisions up to 23 months.

[3]Foreign funds include funds that have remaining lock-up provisions up to 32 months.

[4] Includes funds that are not available for redemption.

I. Retirement Benefits (continued)

Target allocations and weighted-average asset allocations of the investment portfolios for MIT's defined benefit pension plan and retiree welfare benefit plan as of June 30, 2022, and 2021, are shown in Table 25 below.

TABLE 25. PLAN INVESTMENT ALLOCATION

	Defined Benefit Pension Plan			Retiree Welfare Benefit Plan		
	2022 Target Allocation	2022	2021	2022 Target Allocation	2022	2021
Cash and short-term investments	0-10%	3%	5%	0-10%	2%	4%
Fixed income	3-13%	10%	7%	10-20%	17%	13%
Equities	41.5-88.5%	66%	68%	34-84%	60%	62%
Marketable alternatives	12-22%	14%	15%	12.5-22.5%	15%	17%
Real assets	0-6%	1%	1%	0-5.5%	1%	1%
Real estate	0.5-10.5%	6%	4%	0-8%	5%	3%
Total		**100%**	**100%**		**100%**	**100%**

Expected Future Benefit Payments

In fiscal 2023, MIT does not expect to contribute to its defined benefit pension plan or to the retiree welfare benefit plan. These contributions assume a 7.75 percent and 7.50 percent expected return on assets for the defined benefit pension plan and retiree welfare benefit plan, respectively. MIT elected to adopt Pri-2012 mortality tables for employees and retirees issued by the Society of Actuaries (SOA) in October 2019. Mortality rates are projected generationally from the base year of 2012 using Scale MP-2021. The base tables are unchanged from last year, but the projection scale has been updated from Scale MP-2020.

Table 26 below reflects the total expected benefit payments for the defined benefit pension plan and retiree welfare benefit plan over the next ten years. These payments have been estimated based on the same assumptions used to measure MIT's benefit obligations as of June 30, 2022.

TABLE 26. EXPECTED FUTURE BENEFIT PAYMENTS

(in thousands of dollars)	Pension Benefits	Retiree Welfare Benefits*
2023	$ 198,093	$ 30,356
2024	222,675	33,544
2025	237,759	35,557
2026	251,816	37,346
2027	265,173	39,036
2028 - 2032	1,487,834	219,113

**Retiree Welfare Benefits reflect the total net benefits expected to be paid from the plans (e.g., gross benefit reimbursement offset by retiree contributions).*

J. Components of Net Assets and Endowment

Tables 27A and 27B present the composition of net assets as of June 30, 2022, and June 30, 2021, respectively. The amounts listed in the without donor restriction category under the endowment funds sections are those gifts and other funds received over the years that MIT designated as funds functioning as endowment and invested with the endowment funds. A large component of net assets with donor restriction in other funds is pledges, the majority of which will be reclassified to net assets without donor restrictions when cash is received.

TABLE 27A. 2022 TOTAL NET ASSET COMPOSITION

(in thousands of dollars)	Without Donor Restrictions	With Donor Restrictions	Total
Endowment Funds			
General purpose	$ 2,187,620	$ 2,367,431	$ 4,555,051
Departments and research	1,236,136	3,582,491	4,818,627
Library	20,493	90,855	111,348
Salaries and wages	984,539	6,040,369	7,024,908
Graduate general	151,845	421,161	573,006
Graduate departments	423,061	1,421,348	1,844,409
Undergraduate	420,235	2,739,370	3,159,605
Prizes	16,367	94,707	111,074
Miscellaneous	1,712,462	690,319	2,402,781
Endowment funds before pledges	7,152,758	17,448,051	24,600,809
Pledges	-	139,053	139,053
Total endowment funds	7,152,758	17,587,104	24,739,862
Other Funds			
Student-related loan funds	17,542	23,716	41,258
Building funds	67,987	11,093	79,080
Designated purposes:			
Departments and research	543,694	-	543,694
Other purposes	231,303	20,373	251,676
Life income funds and donor-advised funds	97,353	256,228	353,581
Pledges	-	445,950	445,950
Other funds available for current expenses	4,514,579	590,474	5,105,053
Retirement benefits overfunded	695,229	-	695,229
Funds for educational plant	975,148	-	975,148
Total other funds	7,142,835	1,347,834	8,490,669
Total net assets	**$ 14,295,593**	**$ 18,934,938**	**$ 33,230,531**

J. Components of Net Assets and Endowment (continued)

TABLE 27B. 2021 TOTAL NET ASSET COMPOSITION

(in thousands of dollars)	Without Donor Restrictions	With Donor Restrictions	Total
Endowment Funds			
General purpose	$ 2,378,115	$ 2,577,284	$ 4,955,399
Departments and research	1,429,232	3,835,349	5,264,581
Library	22,323	97,900	120,223
Salaries and wages	1,064,538	6,542,497	7,607,035
Graduate general	165,405	458,401	623,806
Graduate departments	344,414	1,455,519	1,799,933
Undergraduate	440,869	2,957,116	3,397,985
Prizes	17,802	101,512	119,314
Miscellaneous	2,165,381	1,340,382	3,505,763
Endowment funds before pledges	8,028,079	19,365,960	27,394,039
Pledges	-	133,165	133,165
Total endowment funds	8,028,079	19,499,125	27,527,204
Other Funds			
Student-related loan funds	18,056	32,427	50,483
Building funds	147,047	23,031	170,078
Designated purposes:			
Departments and research	482,791	-	482,791
Other purposes	288,503	28,496	316,999
Life income funds and donor-advised funds	59,311	260,542	319,853
Pledges	-	438,103	438,103
Other funds available for current expenses	4,407,074	438,913	4,845,987
Retirement benefits overfunded	1,389,564	-	1,389,564
Funds for educational plant	905,307	-	905,307
Total other funds	7,697,653	1,221,512	8,919,165
Total net assets	**$ 15,725,732**	**$ 20,720,637**	**$ 36,446,369**

MIT's endowment consists of approximately 4,600 individual funds established for a variety of purposes and includes both donor-restricted endowment funds and funds that function as endowments. As required by GAAP, net assets associated with endowment funds, including funds designated to function as endowments, are classified and reported based on the existence or absence of donor-imposed restrictions.

The Executive Committee has interpreted the Massachusetts-enacted version of the Uniform Prudent Management of Institutional Funds Act (UPMIFA) as allowing MIT to appropriate for expenditure or accumulate so much of an endowment fund as MIT determines is prudent for the uses, benefits, purposes, and duration for which the endowment fund is established, subject to the intent of the donor as expressed in the gift instrument. Unless stated otherwise in the gift instrument, the assets in an endowment fund shall be donor-restricted assets until appropriated for expenditure by the Executive Committee. In accordance with UPMIFA, the Executive Committee considers the following factors in making a determination to appropriate or accumulate endowment funds:

i. the duration and preservation of the fund
ii. the purposes of MIT and the endowment fund
iii. general economic conditions
iv. the possible effects of inflation and deflation
v. the expected total return from income and the appreciation of investments
vi. other resources of MIT
vii. the investment policies of MIT.

J. Components of Net Assets and Endowment (continued)

Table 28 below reflects changes in endowment net assets without and with donor restrictions as of June 30, 2022, and 2021, respectively.

TABLE 28. CHANGES IN ENDOWMENT NET ASSETS

(in thousands of dollars)	Without Donor Restriction	With Donor Restriction	Total
Fiscal Year 2022			
Endowment net assets, July 1, 2021	$ 8,028,079	$ 19,499,125	$ 27,527,204
Investment return:			
Net Investment income	947	9,626	10,573
Realized and unrealized gains/(losses)	(675,631)	(1,558,081)	(2,233,712)
Total investment return	(674,684)	(1,548,455)	(2,223,139)
Contributions	-	217,216	217,216
Appropriation of endowment assets for expenditure	(248,978)	(585,567)	(834,545)
Other changes:			
Net asset reclassifications and transfers	48,341	4,785	53,126
Endowment net assets, June 30, 2022	**$ 7,152,758**	**$ 17,587,104**	**$ 24,739,862**
Fiscal Year 2021			
Endowment net assets, July 1, 2020	$ 5,335,973	$ 13,159,932	$ 18,495,905
Investment return:			
Net Investment income	12,244	37,062	49,306
Realized and unrealized gains/(losses)	2,867,324	6,672,003	9,539,327
Total investment return	2,879,568	6,709,065	9,588,633
Contributions	-	106,078	106,078
Appropriation of endowment assets for expenditure	(223,791)	(525,315)	(749,106)
Other changes:			
Net asset reclassifications and transfers	36,329	49,365	85,694
Endowment net assets, June 30, 2021	**$ 8,028,079**	**$ 19,499,125**	**$ 27,527,204**

J. Components of Net Assets and Endowment (continued)

Endowment Investment and Spending Policies

MIT's investment policy is based on the primary goal of maximizing return relative to appropriate risk such that performance exceeds appropriate benchmark returns at the total pool, asset class, and individual manager levels. To achieve its long-term rate-of-return objectives, MIT relies on a total return strategy in which investment returns are realized through both capital appreciation (realized and unrealized gains) and current yield (interest and dividends). MIT targets a diversified asset allocation that places greater emphasis on equity-based investments to achieve its long-term objectives within prudent risk constraints.

The Institute's primary investment pool, Pool A, is principally for endowment and funds functioning as endowment. The effective spending rate on pooled endowed funds was 3.1 percent, or 4.4 percent on a three-year-average basis, and 4.2 percent, or 4.5 percent on a three-year-average basis, for fiscal 2022 and fiscal 2021, respectively.

Pool A operates as a mutual fund with units purchased and redeemed based on the previous month's unit market value. Certain endowed assets are also maintained in separately invested funds.

MIT has adopted spending policies designed to provide a predictable stream of funding to programs supported by its investments while maintaining the purchasing power of assets. For pooled investments, the Executive Committee of the Corporation votes to distribute funds for operational support from general investments. In accordance with MIT's spending policy, these distributions are funded from both investment income and market appreciation. The distribution rates were \$90.52 and \$81.80 per Pool A unit as of fiscal 2022 and fiscal 2021, respectively. For separately invested endowment funds, only the annual investment income generated is distributed for spending. For any underwater endowment funds, the distribution of funds for operational support is at the discretion of the Executive Committee.

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Massachusetts Institute of Technology
Five-Year Trend Analysis (Unaudited) – Financial Highlights

(in thousands of dollars)	2022	2021	2020	2019	2018
Financial Position					
Investments, at fair value	$ 32,548,631	$ 34,793,438	$ 24,364,668	$ 22,083,156	$ 20,766,548
Land, buildings, and equipment, at cost less accumulated depreciation	4,686,460	4,475,962	4,306,769	3,993,253	3,684,377
Borrowings, net of unamortized issuance costs	4,657,050	3,929,034	4,194,017	3,168,422	3,259,389
Total assets	39,883,400	42,526,492	30,505,530	27,750,820	26,111,020
Total liabilities	6,652,869	6,080,123	6,288,599	4,981,815	4,594,239
Net assets without donor restriction	14,295,593	15,725,732	9,582,028	9,175,946	8,852,960
Net assets with donor restrictions	18,934,938	20,720,637	14,634,903	13,593,059	12,663,821
Total net assets	33,230,531	36,446,369	24,216,931	22,769,005	21,516,781
Total endowment funds before pledges	24,600,809	27,394,039	18,381,518	17,443,750	16,400,027
Principal Sources of Revenues					
Tuition and similar revenues, exclusive of financial aid	$ 415,252	$ 344,303	$ 374,669	$ 383,736	$ 353,721
Sponsored support:					
Campus direct	608,753	578,900	597,357	598,903	567,523
Lincoln direct	1,072,814	1,073,876	1,042,970	1,017,344	947,295
SMART direct	21,639	28,246	32,635	44,980	41,988
Indirect cost recovery	284,643	276,103	268,004	240,938	206,214
Total sponsored support	1,987,849	1,957,125	1,940,966	1,902,165	1,763,020
Contributions	686,680	505,184	523,751	602,096	481,817
Net return on investments	(2,056,207)	10,889,913	2,142,655	1,970,892	2,503,435
Distribution of investment returns	1,022,202	912,642	911,874	875,428	826,117
Principal Purposes of Expenditures					
Expenses*	$ 3,993,328	$ 3,728,725	$ 3,743,780	$ 3,710,797	$ 3,536,400
Compensation	2,111,924	2,059,954	2,002,434	1,910,957	1,838,629
Other operating	1,286,588	1,106,791	1,211,209	1,246,351	1,180,895
Space-related	594,816	561,980	530,137	553,489	516,876

** Expenses include operating expenses plus the non-service-cost components of net periodic benefit costs.*

Massachusetts Institute of Technology
Five-Year Trend Analysis (Unaudited) – Financial Highlights (continued)

(in thousands of dollars)	2022	2021	2020	2019	2018
Sponsored Support					
Campus					
Federal government sponsored:					
Health and Human Services	$ 148,837	$ 138,873	$ 135,355	$ 136,873	$ 132,634
Department of Defense	140,341	131,960	137,621	142,178	129,238
Department of Energy	82,583	71,983	66,618	67,506	73,987
National Science Foundation	107,600	95,052	99,424	96,802	96,556
National Aeronautics and Space Administration	40,331	36,199	37,429	35,554	36,199
Other Federal	35,107	24,481	27,748	23,620	20,969
Total Federal	554,799	498,548	504,195	502,533	489,583
Non-federally sponsored:					
State/local/foreign governments	29,341	28,469	25,102	27,921	29,000
Foundations	85,743	76,109	83,731	97,810	90,152
Other Nonprofits	37,907	36,568	37,101	36,926	39,368
Industry	176,585	191,367	211,271	208,231	183,751
Total Non-Federal	329,576	332,513	357,205	370,888	342,271
Total Federal and Non-Federal	884,375	831,061	861,400	873,421	831,854
F&A and other adjustments	(38,415)	(20,628)	(44,102)	(75,940)	(92,309)
Total Campus	845,960	810,433	817,298	797,481	739,545
Lincoln Laboratory					
Federal government sponsored	1,111,075	1,085,592	1,097,487	1,048,801	966,179
Non-federally sponsored	24,258	23,638	18,291	17,467	7,240
F&A and other adjustments	(15,513)	8,772	(25,160)	(6,884)	7,873
Total Lincoln Laboratory	1,119,820	1,118,002	1,090,618	1,059,384	981,292
SMART *					
Non-federally sponsored	22,069	28,690	33,050	45,300	42,183
Total SMART	22,069	28,690	33,050	45,300	42,183
Total Sponsored Support	**$ 1,987,849**	**$ 1,957,125**	**$ 1,940,966**	**$ 1,902,165**	**$ 1,763,020**

* *The amounts represent research that has predominantly taken place in Singapore.*

Massachusetts Institute of Technology
Five-Year Trend Analysis (Unaudited) – Financial Highlights (continued)

	2022	2021	2020	2019	2018
Students					
Undergraduate:					
Full-time	4,588	4,234	4,501	4,557	4,510
Part-time	50	127	29	45	37
Undergraduate applications:					
Applicants	33,240	20,075	21,312	21,706	20,247
Accepted	1,365	1,457	1,427	1,464	1,452
Acceptance rate	4%	7%	7%	7%	7%
Enrolled	1,177	1,070	1,102	1,114	1,097
Yield	86%	73%	77%	76%	76%
Freshmen ranking in the top 10% of their class	99%	100%	95%	98%	98%
Average SAT scores (math and verbal)	1,538	1,539	1,532	1,528	1,528
Graduate:					
Full-time	7,199	6,766	6,862	6,845	6,671
Part-time	97	127	128	127	248
Graduate applications:					
Applicants	37,798	30,699	29,114	28,826	27,634
Accepted	3,834	4,448	3,670	3,516	3,383
Acceptance rate	10%	14%	13%	12%	12%
Enrolled	2,339	2,284	2,312	2,321	2,208
Yield	61%	51%	63%	66%	65%
Tuition *(in dollars)*					
Tuition and fees	$ 55,878	$ 53,450	$ 53,790	$ 51,832	$ 49,892
Average room and board	18,100	16,000	16,390	15,510	14,720
Student Support *(in thousands of dollars)*					
Undergraduate tuition support	$ 163,555	$ 159,206	$ 157,544	$ 147,321	$ 137,936
Graduate tuition support	337,507	324,181	312,260	301,026	288,434
Fellowship stipends	55,243	51,793	45,080	44,979	42,309
Student employment	149,517	140,441	136,927	132,300	125,884
Total student support	**$ 705,822**	**$ 675,621**	**$ 651,811**	**$ 625,626**	**$ 594,563**
Faculty and Staff *(including unpaid appointments)*					
Faculty	1,069	1,064	1,067	1,056	1,047
Staff and fellows	14,653	15,121	15,584	15,366	15,212

Report of the Treasurer

for the year ended
June 30, 2022

Massachusetts
Institute of
Technology

Photo: Gretchen Ertl