MIT MASSACHUSETTS INSTITUTE OF TECHNOLOGY EXECUTIVE VICE PRESIDENT AND TREASURER

77 Massachusetts Avenue, Building 3-221
Cambridge, MA 02139-4307
Phone 617-253-1882

VIA FEDERAL EXPRESS

October 12, 2011

U.S. Nuclear Regulatory Commission
Office of Nuclear Material Safety and Safeguards
11555 Rockville Pike
1 Whiteflint North
Rockville, Maryland 20852
Attention: Alexander Adams

Re: Compliance Submissions, Self Guarantee Agreement Pursuant to 10 CFR Part 50, 10 CFR Part 70 and NUREG-1757, Vol.3

Dear Mr. Adams:

In my capacity as the Executive Vice President and Treasurer of the Massachusetts Institute of Technology ("MIT"), a nonprofit university, I serve as MIT's Chief Financial Officer. This letter is in support of MIT's use of the self-guarantee financial test to demonstrate financial assurance, as specified in 10 CFR Part 50 and 10 CFR Part 70, as ongoing compliance with MIT's Self-Guarantee Agreement, dated May 3, 2010 (the "Agreement"), and approved by the Nuclear Regulatory Commission on July 16, 2010.

In order to demonstrate ongoing compliance with the Agreement and 10 CFR Part 50 and 10 CFR Part 70, and MIT's ability to self-guarantee the decommissioning of the following facilities owned or operated by MIT, the current cost estimates or certified amounts for decommissioning each facility, so guaranteed, are shown below, along with their calculation (if applicable), and supporting attachments are enclosed:

Name of Facility	License Number	Location of Facility	Certified Amounts or Current Cost Estimates
MIT	SNM-986	77 Massachusetts Ave. Cambridge, MA 02139	$1,125,000.00
MIT Research Reactor	R-37	138 Albany St. Cambridge, MA 02139	$32,220,000.00

A. License No. SNM-986
Based upon the applicable quantities of special nuclear materials stored at this facility, in accordance with 10 C.F.R. 70.25(d), MIT must guarantee the statutory minimum of $1,125,000 for the proper disposal of these materials.

B. License No. R-37

1. Justification for 2005 $23M Decommissioning Estimate:

NMSS01

Duke Engineering provided MIT with a cost estimate of $23.0M. That study was completed in November 2001. It included a 10% contingency. Inflation was quite low and for some sectors of the economy slightly negative for the years 2001-2005. Accordingly, for our 2006 submittal, we used the uninflated detailed Duke estimate which was $23.0M. For 2008, we provided an estimate of $29.8 million, based on separate inflation factors applied against the labor costs, using the NUREG-1307, Rev. 12, Page D.1, Example 2,(Northeast Region) of 1.28 (labor) and 1.42 (burial).

2. Decommissioning Estimate for 2012:

For 2012, we estimate the decommissioning cost of the MIT Reactor to be $32.2 million. This figure is obtained by taking the $23.0M Duke estimate as a base and inflating it for both the cost of labor and burial as shown below:

Duke Study 2002 Cost			**% of Total**	**NUREG Inflation Model**	**Inflator**	**2012 Cost**
$23,000,000	Labor Portion	$20,470,000	89%	Labor	1.37	$28,043,900
	Burial Portion	$ 2,530,000	11%	Burial	1.65	$ 4,174,500
Total		**$23,000,000**	**100%**			**$32,218,400**

Please note that labor was 89% of the total estimate and burial was 11%. The inflator figures are obtained from NUREG-1307, Rev. 14, Page D.1, Example 2 (Appendix D). We take the date of completion of the Duke study to be 2002 as this is closest to the actual date of November 2001. For labor, the cost index is 2.41 in 2010 and 1.862 for 2002. We assume that cost increases are linear through 2012 and obtain:

$(1.862+((2.41-1.862)/(2010-2002))(2012-2002)) = 2.547$

The inflation factor for 2012 as compared to 2002 is therefore 2.547/1.862 or 1.37. Hence, the labor portion of the cost is ($20.5M)(1.37) or $28.0 million. For burial, the same approach is used to yield a factor of 29.63, an inflation factor of 1.65 and a cost of $4.2 million (Please refer to Attachment 1).

I hereby certify that MIT is currently a going concern, and that it possesses positive tangible net worth in the amount of $12.1 billion, as of the fiscal year ending on June 30, 2011. This figure is derived from MIT's independently audited, year-end financial statements and footnotes for the latest completed fiscal year, which is enclosed. MIT's independent auditor, PricewaterhouseCoopers, has included its review of this letter, which is also enclosed.

MIT is not required to file a Form 10-K with the U.S. Securities and Exchange Commission for the latest fiscal year.

MIT satisfies the following self-guarantee test:

1. Current bond rating of most recent uninsured, uncollateralized, and unencumbered issuance of this institution:

   Rating: Aaa

   Name of rating service: Moody's Investors Service

2. Date of issuance of bonds: May 18, 2011

3. Description and date of maturity of bonds:

Amount	Interest Rate	Maturity Date	Description
$750,000,000	5.60%	May 18, 2111	Taxable Series B

4. Is the rating specified on line 1 "A" or better? Yes

I hereby certify that the content of this letter is true and correct to the best of my knowledge.

Signature Theresa M. Stone

Name: Theresa M. Stone

Title: Executive Vice President and Treasurer
(Chief Financial Officer)

Date: OCTOBER 14, 2011

Enclosures

ATTACHMENT 1

NRC Decommissioning Estimate 2012

Duke Study (2002)	**23,000,000.00**		**NRC Inflation Model 2012**	**Inflator**	**32,183,000.00**
Labor Portion	20,470,000.00	89%	Labor	1.37	28,000,000.00
Burial portion	2,530,000.00	11%	Burial	1.65	4,183,000.00

	2006	**2012**
LABOR	2.384	2.547
	1.28	**1.37**
BURIAL	25.4385	29.6345
	1.42	**1.65**

Appendix D

Representative Examples of Decommissioning Costs for 2000 through 2010

In Section 3.4 of this revision and the four previous revisions of NUREG-1307, decommissioning costs for four typical situations were developed. Results of these calculations are summarized below.

Example 1 (LLW Direct Disposal)

Reactor Type: PWR
Thermal Power Rating: 3400 MW thermal
Location of Plant: Northwest Compact
LLW Burial Location: Washington

	2000	2002	2004	2006	2008	2010
L_x	1.612	1.775	1.984	2.11	2.23	2.29
E_x	1.016	0.985	1.483	2.152	2.746	2.139
B_x	2.223	3.634	5.374	6.829	8.283	8.035
Decommissioning Cost (Millions)	\$175	\$219	\$280	\$331	\$381	\$371

Example 2 (LLW Direct Disposal)

Reactor Type: PWR
Thermal Power Rating: 3400 MW thermal
Location of Plant: Atlantic Compact
LLW Burial Location: South Carolina (Atlantic Compact)

	2000	2002	2004	2006	2008	2010
L_x	1.719	1.862	2.070	2.21	2.33	2.41
E_x	1.016	0.985	1.483	2.152	2.746	2.139
B_x	17.922	17.922	19.500	22.933	25.231	27.292
Decommissioning Cost (Millions)	\$545	\$555	\$612	\$710	\$779	\$824

Example 3 (LLW Disposition by Waste Vendors)

Reactor Type: PWR
Thermal Power Rating: 3400 MW thermal
Location of Plant: Atlantic Compact
LLW Burial Location: South Carolina (Atlantic Compact)

	2000	2002	2004	2006	2008	2010
L_x	1.719	1.862	2.070	2.21	2.33	2.41
E_x	1.016	0.985	1.483	2.152	2.746	2.139
B_x	7.878	9.273	7.790	8.600	9.872	12.280
Decommissioning Cost (Millions)	\$313	\$355	\$341	\$379	\$425	\$477

MOODY'S
INVESTORS SERVICE

HIGH PROFILE NEW ISSUE

Moody's Assigns Aaa Rating To The Massachusetts Institute Of Technology's $500 Million Of Taxable Revenue Bonds, Series B; Outlook Remains Stable

Aaa And Aaa/VMIG 1 Ratings Affirmed; MIT Will Have $2 Billion Of Rated Debt Outstanding

Sale Details	
Security:	Unsecured general obligation
Bond Amount:	$500 million
Sale Date:	05/12/2011
Use of Proceeds:	Various capital improvements

Key Facts	
Expendable Financial Resources	$7.2 billion
Pro-Forma Direct Debt (including $750 million of Series BBonds)	$2.4 billion
Unrestricted Monthly Liquidity	$2.4 billion
Expendable Financial Resources to Operations	3.0 times
Operating Cash Flow Margin	16.4%
Three-Year Average Debt Service Coverage	6.7 times
Monthly Days Cash on Hand	377.5 days
Reliance on Grants and Contracts	51.5%

Analyst Contacts:

NEW YORK 1.212.553.1653

Karen Kedem 1.212.553.3614
Vice President - Senior Analyst
Karen.Kedem@moodys.com

BOSTON

Kimberly S. Tuby 1.617.204.5638
Vice President - Senior Analyst
Kimberly.Tuby@moodys.com

» contacts continued on the last page

Moody's Investors Service has assigned a Aaa rating to the Massachusetts Institute of Technology's (MIT) Taxable Revenue Bonds, Series B. MIT is globally recognized for its prominent academic and research reputation and is located in Cambridge, Massachusetts, USA. The university is authorized to issue up to $750 million, but may choose to issue as little as $500 million. At this time, we have also affirmed the Aaa and Aaa/VMIG 1 ratings assigned to the university's outstanding debt, as detailed in the RATED DEBT section. The rating outlook is stable.

Summary Rating Rationale

MIT's Aaa rating and stable outlook reflect the university's market position as a global market leader in science and engineering education and its preeminent research reputation, exceptionally large balance sheet which provides strong coverage of debt and operations, and history of extraordinary philanthropic support and operating surpluses. The university's long-term rating also incorporates MIT's high reliance on sponsored research, the need to sustain strong philanthropic gifts and investment returns, as well as its significant capital investment associated with its MIT 2030 development framework. MIT's ample liquid assets and capable management team support the highest short-term ratings based on its self-liquidity program.

Strengths

» Global market position as an elite science and engineering university with a preeminent research profile;

» Exceptionally large balance sheet providing strong coverage of pro-forma debt and operations;

- History of extraordinary philanthropic support;
- Consistently healthy operating performance expected to continue due to strong oversight and fiscal stewardship;

Challenges

- Sustaining a long track-record of superior investment performance to support expense growth;
- High reliance (50% of operating revenues) on sponsored research, particularly from U.S. federal government agencies, which is expected to be pressured in the near-term;
- Significant long-term development framework for campus facility expansion and modernization, requiring sophisticated management of funding sources over the long-term.

Detailed Credit Discussion

USE OF PROCEEDS: Bond proceeds will be used to finance various capital improvements and pay the costs of issuance.

LEGAL SECURITY: Unsecured general obligation of the Institute

INTEREST RATE DERIVATIVES: MIT has two interest rate swap agreements related to its Series J variable rate bonds, each with a notional amount of $125 million. Swap payments are unsecured general obligations of the Institute. One of the swaps is with Merrill Lynch Capital Services and guaranteed by Merrill Lynch & Co., Inc. (rated A2/P-1) and expires on June 5, 2011. The second swap is with Deutsche Bank AG (rated Aa3/P-1) and expires on June 5, 2031. Under both swap agreements, MIT pays a fixed rate and receives a variable rate based on SIFMA. There are no automatic termination events and the swap can be terminated by either party if the other party's credit senior unsecured credit rating is below A3. MIT has the right to terminate the agreement anytime, but the counterparty does not. On the second swap, due June 5, 2031, the Institute must post collateral if its rating is A3 or below and the market value of the swap is a liability to MIT of at least $10 million. The combined market valuation as of May 1, 2011 was a liability to the university of $32.7 million.

DEBT STRUCTURE: Following the issuance of up to $750 million of fixed rate taxable bonds, Series B, a relatively moderate 18% of debt outstanding will be variable rate with a demand feature. MIT's variable rate debt with a demand feature includes $250 million of Series J-1 and J-2 bonds and $176.5 million of notes payable under a bank line of credit. The current borrowing is expected to have a notably long maturity of up to 100 years, but it is expected that the bullet payments will be staggered so that the earliest payment would be in 30 years. The university will have the ability, though at a significant cost, to call the bonds before the scheduled maturity dates through a "make whole" provision. The "make whole" provision allows MIT to call a portion or all of the bonds at any time for the greater of par or a premium based on treasuries plus a spread. The use of taxable debt also provides flexibility in the use and investment of bond proceeds relative to tax exempt debt.

Market Position/Competitive Strategy: Global Reputation As A Science And Engineering University With A Large And Prominent Research Profile

The Massachusetts Institute of Technology is a global market leading university with a premier niche as a research intensive science and engineering university. We expect that MIT's extraordinarily strong academic and research reputation will continue to enable the university to attract the highest quality students and faculty as well as garner strong research grant awards. MIT is a large university serving more than 10,400 full-time equivalent students in fall 2010, 60% of whom are graduate students.

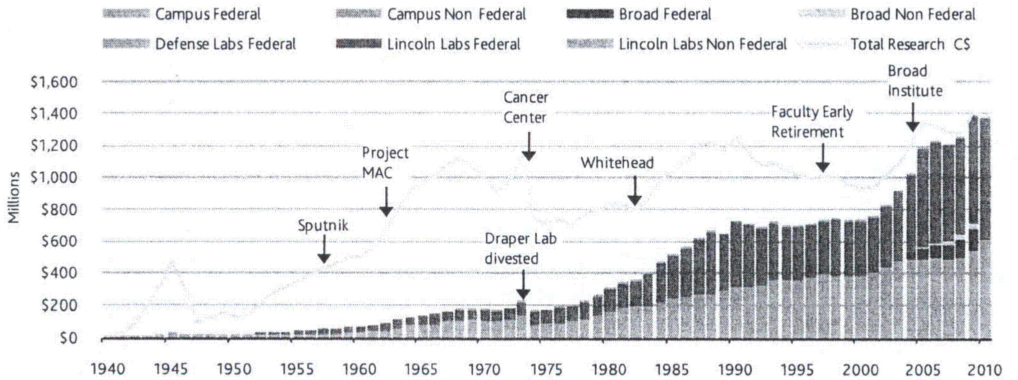
MIT's undergraduate demand metrics highlight its superior market position, with the university accepting 9.6% of freshmen applicants based on preliminary fall 2011 data. Moody's anticipates that yield on accepted students will be in line with recent years, in the mid-sixty percent range. In addition, the university's geographically diverse student population, with 8% of undergraduate enrollment and 38% of graduate enrollment from outside of the United States, demonstrates MIT's strong global standing. The university's global presence is aided by its free web-based course offerings. This program, known as Open Courseware (OCW), is a program through which MIT provides its educational materials online free of charge, and it has reached over 100 million users within only one decade of its implementation.

Like many of its peers, MIT has chosen not to exercise its considerable tuition pricing power based on its superior demand. Demonstrating its commitment to admit the best students regardless of ability to pay, MIT covers the full cost of tuition for all undergraduate students with family income below $75,000. In addition, MIT does not consider home equity as a source of payment for families earning less than $100,000. Approximately 28% of the undergraduate enrollment is eligible for free tuition based on the expanded aid policy. The combined changes, implemented in fall 2008, resulted in a marginal increase in the tuition discount rate to 49% from 46%. The university remains committed to providing student aid and will complete a targeted five-year Campaign for Students, which is raising funds for various student-related purposes including financial aid, at the end of fiscal 2011, having raised $550 million to date compared to a $500 million goal. Student charges, including tuition and auxiliary services, represent a modest 12.6% of Moody's calculated operating revenue for FY 2010. MIT's primary competitors are all highly rated (Aaa or Aa) universities, including Stanford University, Harvard University, Yale University, Princeton University, Carnegie Mellon University, California Institute of Technology, and Columbia University.

MIT maintains an extremely strong research profile, particularly since it does not have a medical school, with nearly $1.2 billion in direct research expenditures in FY 2010. Approximately half of the university's research is associated with the ownership and operation of a federally funded research and development facility, Lincoln Laboratory, which focuses on advanced electronics. MIT has operated the lab since its inception in 1951 and currently has a five-year contract with the Department of Defense which expires in March 2015. Management reports limited competition for this contract. Excluding Lincoln Laboratory, research funding sources are relatively diverse and include 23% from Health and Human Services, 17% from Department of Defense, 12% from Department of Energy, 15% from corporations, 11% from National Science Foundation, 8% from non-profits, 5% from foreign governments, 5% from National Aeronautics and Space Administration, 2% from other federal, and 2% from internal sources. While federal funding for research will be challenged in the near-term, we expect that universities with large prominent research profiles will continue to secure ongoing grant awards. Management reports that growth of non-federal sources, particularly in regards to international research collaboration, has more than offset the slower pace of funding from US federal agencies. MIT has developed relationships overseas to provide research and development expertise, including the Singapore-MIT Alliance for Research and Technology, which is projected to be a $350 million program over five years. MIT's nearly $580 million in unspent grant awards combined with continued increases in grant applications are expected to help maintain MIT's robust research profile.

FIGURE 1

Preeminent Reputation Fuels Growth of Research Expenditures



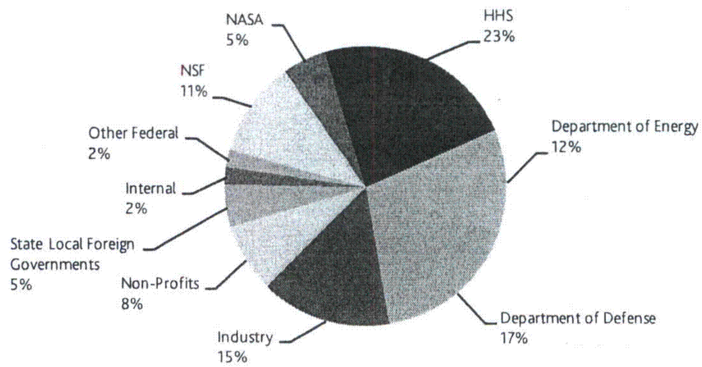
*Fiscal 2010 is the base year for constant dollars cited above

Research activity remains strong despite the spin-off of a research institute. In FY 2010, the Broad Institute (rated A1), previously a unit of MIT, became a separately incorporated entity. Broad's research activity accounted for $178 million of research expenditures in FY 2009. Management reports that FY 2011 research expenditures are projected to exceed FY 2009 levels during which time the Broad Institute was incorporated. MIT has spun-off other independent research organizations including the Whitehead Institute for Biomedical Research (rated Aa1) and Draper Laboratory (rated Aa3). These organizations maintain strong affiliations and close collaboration with the university, including some faculty with tenured appointments on the MIT faculty. Management does not anticipate additional separate incorporations of other research institutes in the near-term.

Operating Performance: Consistently Healthy Operating Performance Expected To Continue Due To Strong Fiscal Stewardship

We expect MIT's history of healthy operating performance will continue due to strong fiscal stewardship combined with revenue growth driven by its superior market position. In FY 2010, operating cash flow margin reached a healthy 16.4%, averaging 14.4% over a three year period. Cash flow provided a strong 6.7 times coverage of $59.2 million of annual debt service during the same time period, though much of the university's debt is non-amortizing. Average debt service coverage remains sound covering $334 million of pro-forma maximum annual debt service (FY 2031) by an average of 1.5 times, assuming the largest bullet payment of $250 million. MIT's sources of revenue have remained relatively constant over time, with the university highly reliant on sponsored research revenue (including income associated with the Lincoln Laboratory). In FY 2010, Moody's calculation of operating revenue included 51.5% from sponsored research, 20% from investment income, 12.6% from student charges, 7.2% from gifts, and 8.8% from other sources. As noted above, the diversity of sources of research awards helps insulate the university from variability in any single funding source.

FIGURE 2
Diverse Sponsors of On-Campus Research
FY 2010 Research Expenditures



The university's ongoing monitoring of operating performance, use of sensitivity analysis, and willingness to take actions to address budgetary pressure should contribute to MIT's long-term financial health. In response to the expected reduction in investment income related to the lagged effect of market declines on the university's endowment spending policy, MIT implemented and continues to pursue expense cuts. Management reports that the Institute is reviewing its endowment spending policy to evaluate how best to control for volatility experienced during the financial crisis. Over fiscal years 2010 and 2011, MIT cut over $120 million in expenses compared to FY 2009 to absorb an 18% reduction in investment income implemented in FY 2011. Expense reductions were achieved through a combination of deferred capital and programmatic investments, moderation in compensation increases, and other savings initiatives. The university anticipates that it will achieve additional efficiencies and further reduce expense as it implements the suggestions of an Institute-wide task force. Notable cost-saving initiatives include the centralization of procurement to achieve greater economies of scale, increased automation of processes across campus, energy conservation projects, and improved space utilization.

Balance Sheet Position: Despite Significant Increase In Debt, Robust Balance Sheet Expected To Continue To Provide Ample Cushion For Debt And Operations

MIT's robust balance sheet should continue to provide an ample cushion for debt and operations, despite an increase of as much as 40% in debt associated with the full authorized $750 million of Series B bonds. This conclusion is driven by the expectation of continued extraordinary philanthropic support, healthy operating surpluses, and long-term investment gains. As of the end of FY 2010, expendable financial resources (total net assets less permanently restricted endowment and property/equipment net assets) of $7.2 billion equaled 3.0 times the level of pro-forma debt and annual operating costs, assuming MIT issues $750 million of Taxable Revenue Bonds, Series B. Incorporating the maximum authorized amount of the Series B issuance and $227 million of capitalized operating leases, expendable financial resources cover comprehensive debt by 2.7 times.

Moody's has reclassified $18.8 million of unrestricted net assets representing the overfunded defined benefit plan to permanently restricted net assets. Although these funds represent a long-term strength since MIT is likely to need to make fewer contributions to the plan compared to other organizations with an underfunded pension, the funds cannot be used for any other purpose and therefore are more akin to permanently restricted endowment funds.

Bond proceeds will be used to finance a portion of the MIT 2030 development framework which calls for significant renewal of facilities and infrastructure, construction of additional research buildings, and continued strategic development of real estate. MIT 2030 includes approximately $1.5 billion for academic plant and $1.5 billion for real estate investments. In addition, management reports that they anticipate pursuing a significant capital upgrade to the facilities at their Lincoln Laboratory facility in Lexington, MA. Management expects that the borrowing for the Lab, which will be guaranteed by the federal government, will appear as a capital lease on its financial statements. Financing for Lincoln Laboratory is not expected for at least three years. MIT 2030 incorporates $770 million in gifts towards academic plant improvements. The timing of capital projects will depend on philanthropic support as well as availability of real estate investments. Following the issuance of the Series B bonds, management does not anticipate borrowing for on-campus academic and research projects for at least five years.

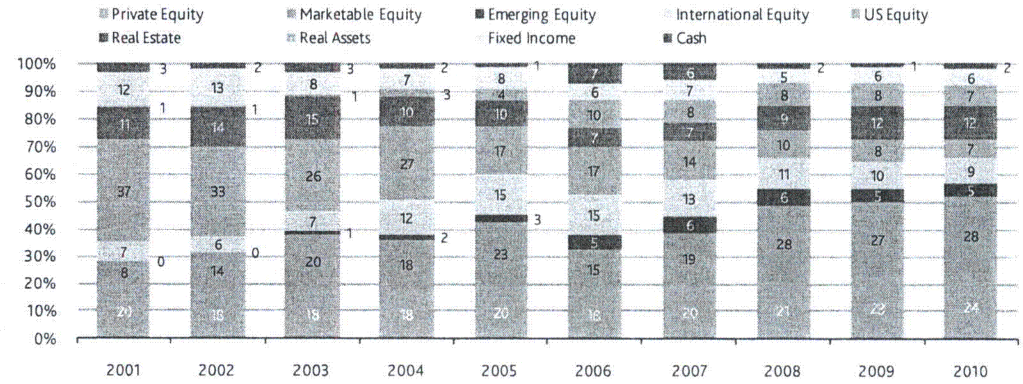
MIT's large portfolio of institutional real estate is excluded from Moody's calculations of financial resources because we do not expect the Institute to liquidate large portions of these holdings under normal operating conditions. However, in the highly unlikely event that the Institute were to enter an extended period of financial stress, the ability to tap these real estate holdings provides an additional material credit strength not shown in the financial resource ratios.

Continued extraordinary philanthropic support should enable MIT to continue to make strategic investments in plant and programs as well as bolster its balance sheet. During FY 2008-2010, gifts per student have averaged a strong $30,000. MIT recently reported the receipt of a substantial gift of the majority of the stock of the privately held Bose Corporation. Additional information on the value of the gift is not available at this time. MIT remains successful in its current fundraising strategy of conducting smaller targeted campaigns, such as the initiatives to support student financial aid or particular capital projects. MIT's last fundraising initiative, the Campaign for MIT, concluded in 2006 and raised $2.05 billion compared to a goal of $2 billion.

Strong Investment Oversight And Adequate Liquidity

The Institute's endowment is managed by the Massachusetts Institute of Technology's Investment Management Company (MITIMCo), a wholly owned subsidiary of MIT which is responsible for approximately $12.4 billion in investment assets, including endowed, excess working capital, and retirement plan assets as of June 30, 2010. MITIMCo staff consists of a staff of approximately 50 investment professionals and support staff. The company has its own MITIMCo Board which reports to MIT's Executive Committee. The asset allocation of the managed assets at March 31, 2011 included approximately: 25% in hedge funds, 24% in private equity, 12% in real estate, 10% in long-only international equity, 8% in long-only domestic equity, 8% in real assets, 6% in fixed income, 5% in long-only emerging market equity, and 2% in cash. Although Moody's has not received full disclosure of the university's investment holdings, based on the information that we have received we believe the long-term investment pool is well diversified among managers and funds and remains less than 5% invested with any one manager. Based on FY 2010 data, unfunded capital commitments of $1.9 billion represent approximately 23% of total cash and investments.

FIGURE 3
Increasingly Diversified Endowment Allocation



MIT's recent investment performance has experienced less volatility than market averages. For example, in FY 2010 the endowment returned 10.2% relative to the National Association of College and University Business Officer's average of 12% and FY 2009 declines of 17.1% compared favorably to the industry average of 19%. Management reports an estimated growth in endowment assets in the range of 10-15% for the first nine months of fiscal 2011. The range of performance reflects MIT's high allocation to alternative investments which, the fair value for which are received on a lagged quarterly basis.

MIT currently maintains adequate liquidity within the endowment and its working capital to support its treasury function and ongoing operations. Our evaluation of the university's liquidity incorporates a number of potential calls on the liquidity of the Institute, including its self-liquidity debt, endowment spending requirements, private investment capital calls, and the general operating needs of the university. We note that MIT's debt structure is moderately conservative, with 18% of debt issued in a variable rate demand mode and an interest rate swap agreement which would only require collateral posting if the Institute's rating were lowered six or more notches. As estimated as of June 30, 2010, MIT could have up to $1.9 billion of private investment capital calls over multiple years. Based on Moody's calculations, management reports unrestricted cash and investments available to be liquidated within one month of nearly $2.4 billion which would provide 5.5 times coverage of demand debt and more than one year's worth of operating expenses (377.5 days monthly days cash on hand).

We expect that MIT will maintain sufficient liquidity relative to potential demands even as it, like peers, begins to invest longer-term. In addition, MIT holds highly liquid working capital assets held outside of the endowment. A substantial and sustained thinning of the Institute's liquidity relative to its needs could pressure the rating.

Ample Self Liquidity And Capable Management Support VMIG 1 Rating On Series J-1 And J-2 Bonds

The highest short-term rating of VMIG 1 on $250 million of Series J-1 and J-2 bonds is based on MIT's strong internal liquidity and treasury management. Discounted daily liquidity includes $376 million of funds in a 2a-7 money market fund, $520 million of U.S. Treasury and Agency securities, $64 million in repurchase agreements, and $37 million in P-1 rated banks as of March 31, 2010.

Discounted daily liquidity provides strong coverage of nearly 4.0 times of the weekly variable rate demand bonds. The university also holds nearly $1.1 billion in readily saleable equity holdings (not discounted) that could be liquidated within a week's time. MIT has extensive treasury experience in managing its investment and debt portfolio, ensuring timely draws on available liquidity in the event of failed remarketings of the bonds.

Outlook

The rating outlook remains stable reflecting expectations of MIT's continued superior academic and research reputation, strong philanthropic support, ample liquidity, and lack of additional borrowing plans for campus academic and research purposes for at least five years. We expect the Institute's strong global reputation in its market segments will, if anything, increase over time.

What Could Make The Rating Go Up

Not applicable

What Could Make The Rating Go Down

Failure to sustain a strong liquidity position relative to potential liquidity needs; dramatic increase in leverage due to increased borrowing or severe investment losses; substantial and sustained deterioration in research profile or student demand

Key Indicators (Fall 2010 Enrollment, FY 2010 financial data)

Total Full-Time Equivalent Enrollment:	10,429 Students
Freshmen Selectivity:	10.1%
Freshmen Matriculation:	63.7%
Expendable Financial Resources:	$7.2 billion
Pro-Forma Direct Debt:	$2.4 billion (including $750 million of Series B bonds)
Monthly Liquidity:	$2.4 billion
Expendable Financial Resources to Pro-Forma Debt:	3.0 times
Expendable Financial Resources to Operations:	3.0 times
Operating Cash Flow Margin:	16.4%
Average Debt Service Coverage:	6.7 times
Monthly Days Cash on Hand:	377.5 days
Reliance on Sponsored Research (% of Operating Revenue):	51.5%
Reliance on Investment Income (% of Operating Revenue):	20.0%

Rated Debt

Series I, K, L, M, N, O: Aaa

Series B (Taxable): Aaa

Series J-1 and J-2: Aaa/VMIG 1 (self-liquidity)

Contacts

Massachusetts Institute of Technology: Israel Ruiz at 617-253-4495 or Allen Marcum at 617-324-7207

Underwriter: Barclays Capital, John Augustine at 212-526-5436 or Jim Costello at 212-526-5730

Principal Methodology Used

The principal methodology used in this rating was Moody's Rating Approach for Private Colleges and Universities published in September 2002.

Regulatory Disclosures

Information sources used to prepare the credit rating are the following: parties involved in the ratings, public information and confidential and proprietary Moody's Investors Service information.

Moody's Investors Service considers the quality of information available on the credit satisfactory for the purposes of assigning a credit.

Fiscal Year	2006	2007	2008	2009	2010	FY 2010 Pro-Forma + $750 million
Key Ratios						
Debt Outstanding ($'000)	1,053,489	1,078,234	1,335,393	1,735,843	1,728,526	2,421,654
Unrestricted Financial Resources ($'000)	2,957,245	3,581,109	3,683,062	2,598,950	2,908,566	2,927,407
Expendable Financial Resources ($'000)	7,541,501	9,119,241	9,320,054	6,852,342	7,228,259	7,247,100
Total Financial Resources ($'000)	9,296,304	11,884,461	12,029,633	9,003,632	9,349,038	9,349,038
Total Cash & Investments ($'000)	9,571,499	11,152,886	11,389,535	9,321,122	10,002,482	10,002,482
Monthly Liquidity ($000)				1,609,958	2,356,502	2,356,502
Annual Liquidity ($000)				3,120,803	3,536,338	3,536,338
Operating Revenue ($'000)	2,210,866	2,289,792	2,480,928	2,626,955	2,658,063	2,658,063
Total Expenses ($'000)	2,181,696	2,207,621	2,301,687	2,461,286	2,382,566	2,382,566
Total Gift Revenue ($'000)	232,472	332,874	385,952	303,890	246,580	246,580
Average Gift Revenue (3yr avg) ($'000)	179,965	222,337	317,099	340,905	312,141	312,141
Market						
Total Enrollment FTE	10,079	10,044	10,173	10,276	10,429	10,429
Total Enrollment that is Undergraduate (%)	40.6	41.2	40.6	41.0	40.9	40.9
Primary Selectivity (%)	13.3	12.5	11.9	10.7	10.1	10.1
Primary Matriculation (%)	66.2	68.7	66.0	64.0	63.7	63.7
Net tuition per student ($)	19,615	20,761	22,810	21,369	23,190	23,190
Total tuition discount (%)	46.6	47.0	45.6	49.7	49.1	49.1
Capital Ratios						
Unrestricted financial resources-to-direct debt (x)	2.81	3.32	2.76	1.50	1.68	1.21
Expendable financial resources-to-direct debt (x)	7.16	8.46	6.98	3.95	4.18	2.99
Total financial resources-to-direct debt (x)	8.82	11.02	9.01	5.19	5.41	3.86
Total cash & investments-to-direct debt (x)	9.09	10.34	8.53	5.37	5.79	4.13
Direct Debt-per-Student ($)	104,523	107,351	131,268	168,922	165,742	232,204
Direct debt-to-cash flow (x)	7.11	5.56	4.59	5.97	4.56	6.38
Debt to Operating Revenues (x)	0.48	0.47	0.54	0.66	0.65	0.91
Debt service to operations (%)	3.3	2.8	2.1	2.4	2.5	2.5
MADS to operations (%)	5.6	5.6	5.3	11.4	11.8	14.0
Variable Rate Exposure - before Swaps (%)	32.0	34.0	18.7	24.6	24.7	17.6
Monthly Liquidity to Demand Debt (%)				377.5	552.5	552.5
Annual Liquidity to Demand Debt (%)				731.7	829.1	829.1
Capital Spending Ratio (x)	1.72	1.55	2.56	2.39	3.73	3.73
Capital Expenses to Operations (%)	5.5	5.1	4.8	7.3	6.8	6.8
Age of plant (number of years) (x)	5.50	6.58	7.08	6.99	8.47	8.47
Balance Sheet Ratios						
Unrestricted financial resources-to-operations (x)	1.36	1.62	1.60	1.06	1.22	1.23
Expendable financial resources-to-operations (x)	3.46	4.13	4.05	2.78	3.03	3.04
Total Financial Resources-to-Operations (x)	4.26	5.38	5.23	3.66	3.92	3.92
Monthly Days Cash on Hand (x)				251.5	377.5	377.5
Annual Days Cash on Hand (x)				487.6	566.5	566.5
Total Financial Resources-per-Student ($)	922,344	1,183,240	1,182,506	876,181	896,446	896,446

Fiscal Year	2006	2007	2008	2009	2010	FY 2010 Pro-Forma + $750 million
Operating Ratios						
Operating margin (%)	1.3	3.6	7.2	6.3	10.4	10.4
Average operating margin (%)	1.6	2.1	4.0	5.7	8.0	8.0
Operating margin excluding gifts (%)	-4.7	-3.6	0.3	0.1	3.5	3.5
Operating Cash Flow Margin (%)	9.3	10.6	13.6	13.2	16.4	16.4
Debt Service Coverage (x)	2.88	3.86	6.88	5.98	7.37	7.37
MADS coverage (x)	1.67	1.97	2.75	1.23	1.55	1.30
Average MADS Coverage (x)	1.60	1.77	2.13	1.76	1.64	1.52
Average debt service coverage (x)	3.19	3.26	4.29	5.46	6.74	6.74
Average gifts per student ($)	17,855	22,136	31,171	33,175	29,930	29,930
Research Expense as a % of Total Expenses (%)	47.5	45.3	45.8	47.4	50.0	50.0
Return on net assets (%)	16.6	26.2	0.6	-22.1	3.8	3.8
Return on financial resources (%)	16.0	27.8	1.2	-25.2	3.8	3.8
Return on Cash and Investments (%)	10.2	9.9	3.6	-15.5	9.6	9.6
Sources of Revenue						
Tuition and Auxiliaries (%)	12.7	12.9	12.9	11.9	12.6	12.6
Investment Income (%)	16.7	18.6	19.3	20.4	20.0	20.0
Gifts (%)	5.7	6.9	6.9	6.2	7.2	7.2
Grants and contracts (%)	55.1	51.4	50.2	52.3	51.5	51.5
Other (%)	9.7	10.2	10.6	9.3	8.8	8.8

Moody's Related Research

Special Comment:

» Primer on Moody's Key Private Higher Education Ratio Calculations, July 2009 (118340)

Industry Outlook:

» 2011 Outlook for US Higher Education, January 2011 (129939)

Rating Methodology:

» Moody's Rating Approach for Private Colleges and Universities (75753)

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

» contacts continued from page 1

Analyst Contacts:

NEW YORK 1.212.553.1653

John C. Nelson 1.212.553.4096
Managing Director - Public Finance
John.Nelson@moodys.com

Report Number: 133044

Author
Karen Kedem

Editors
Kimberly Tuby
John C. Nelson

Production Associate
David Dombrovskis

© 2011 Moody's Investors Service, Inc. and/or its licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ARE MOODY'S INVESTORS SERVICE, INC.'S ("MIS") CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES. MIS DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL, FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. CREDIT RATINGS DO NOT CONSTITUTE INVESTMENT OR FINANCIAL ADVICE, AND CREDIT RATINGS ARE NOT RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. CREDIT RATINGS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MIS ISSUES ITS CREDIT RATINGS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT. All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process. Under no circumstances shall MOODY'S have any liability to any person or entity for (a) any loss or damage in whole or in part caused by, resulting from, or relating to, any error (negligent or otherwise) or other circumstance or contingency within or outside the control of MOODY'S or any of its directors, officers, employees or agents in connection with the procurement, collection, compilation, analysis, interpretation, communication, publication or delivery of any such information, or (b) any direct, indirect, special, consequential, compensatory or incidental damages whatsoever (including without limitation, lost profits), even if MOODY'S is advised in advance of the possibility of such damages, resulting from the use of or inability to use, any such information. The ratings, financial reporting analysis, projections, and other observations, if any, constituting part of the information contained herein are, and must be construed solely as, statements of opinion and not statements of fact or recommendations to purchase, sell or hold any securities. Each user of the information contained herein must make its own study and evaluation of each security it may consider purchasing, holding or selling. NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY SUCH RATING OR OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

MIS, a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MIS have, prior to assignment of any rating, agreed to pay to MIS for appraisal and rating services rendered by it fees ranging from $1,500 to approximately $2,500,000. MCO and MIS also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moodys.com under the heading "Shareholder Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Any publication into Australia of this document is by MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657, which holds Australian Financial Services License no. 336969. This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001.

Notwithstanding the foregoing, credit ratings assigned on and after October 1, 2010 by Moody's Japan K.K. ("MJKK") are MJKK's current opinions of the relative future credit risk of entities, credit commitments, or debt or debt-like securities. In such a case, "MIS" in the foregoing statements shall be deemed to be replaced with "MJKK".

MJKK is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO.

This credit rating is an opinion as to the creditworthiness or a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors. It would be dangerous for retail investors to make any investment decision based on this credit rating. If in doubt you should contact your financial or other professional adviser.

MOODY'S
INVESTORS SERVICE

pwc

Report of Independent Auditors

To the Board of Trustees of
Massachusetts Institute of Technology:

We have performed the procedures enumerated below, which were agreed to by Massachusetts Institute of Technology ("the Institute"), NRC MIT licenses SNM-986 and R-37, solely to assist you in complying with the Nuclear Regulatory Commission's financial assurance regulations, 10 CFR Part 50 and 10 CFR Part 70. Management is responsible for the Institute's compliance with those regulations. This agreed-upon procedures engagement was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. The sufficiency of these procedures is solely the responsibility of those parties specified in this report. Consequently, we make no representation regarding the sufficiency of the procedures described below either for the purpose for which this report has been requested or for any other purpose.

The procedures and associated findings are as follows:

1. Confirmed that the tangible net worth in the CFO letter agrees with total net assets contained in the Institute's financial statements for the year ended June 30, 2011, which we have audited in accordance with auditing standards generally accepted in the United States of America and have issued our report thereon dated September 15, 2011;

2. Inquired of management as to the existence of any reconciling items between the CFO's Letter and the audited financial statements noting that there are none; and

3. Mathematically check the totals in the accompanying schedule, including the current cost estimates of decommissioning for each facility listed per the CFO's letter.

No exceptions were noted.

We were not engaged to and did not conduct an examination, the objective of which would be the expression of an opinion on compliance with the regulations. Accordingly, we do not express such an opinion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

This report is intended solely for the information and use of management and the Board of Trustees of Massachusetts Institute of Technology and the Nuclear Regulatory Commission, and is not intended to be and should not be used by anyone other than these specified parties.

PricewaterhouseCoopers LLP

October 14, 2011

PricewaterhouseCoopers LLP, 125 High Street, Boston, MA 02110
T: (617) 530 5000, F: (617) 530 5001, www. pwc.com/us

Report of the Treasurer

for the year ended June 30, 2011

Massachusetts
Institute of
Technology

The Corporation

2010–2011

as of June 30, 2011

Chairman: John S. Reed*
President: Susan Hockfield*
Executive Vice President and Treasurer: Theresa M. Stone*
Vice President for Institute Affairs and Secretary: Kirk D. Kolenbrander

Life Members

Shirley A. Jackson; David H. Koch; Patrick J. McGovern; Robert A. Muh; Denis A. Bovin*; James A. Champy*; Judy C. Lewent; A. Neil Pappalardo*; Arthur Gelb; Edie N. Goldenberg; Robert M. Metcalfe; Kenan E. Sahin; John K. Castle; Charles M. Vest; Susan E. Whitehead; Brian G. R. Hughes; Norman E. Gaut; L. Robert Johnson; Arthur J. Samberg*; Gururaj Deshpande; Barrie R. Zesiger*; James H. Simons; John A. Thain.

Members

Thomas P. Gerrity; Mark P. Gorenberg; Scott P. Marks, Jr.; Marjorie M.T. Yang; Alan G. Spoon; Lawrence K. Fish; David D. Ho; Robert B. Millard*; Carly S. Fiorina; Anita K. Jones*; Martin Y. Tang; Raymond C. Kurzweil; Kenneth Wang; David A. Berry; James A. Lash; Paul F. Levy; Megan J. Smith; Henri A. Termeer; Chiquita V. White*; O. Reid Ashe, Jr.; John W. Jarve; Harbo P. Jensen; Abigail P. Johnson; Frederick A. Middleton, Jr.; Barun Singh; Diana C. Walsh; Ursula M. Burns; Diane B. Greene; Helen Greiner; Marta M. Luczynska; Victor J. Menezes; Antonia D. Schuman; Peter L. Slavin; Laura D. Tyson; Raja H.R. Bobbili; Rafael del Pino; Mohammed A. L. Jameel; Cleve L. Killingsworth; Alejandro Padilla; Tony Keng Yam Tan; Samuel W. Bodman; Sarah Stewart Johnson; Reginald Van Lee

President of the Association of Alumni and Alumnae

K. Anne Street

Representatives of the Commonwealth

Governor: Deval L. Patrick
Chief Justice of the Supreme Judicial Court: Roderick L. Ireland
Secretary of Education: S. Paul Reville

Life Members Emeritus

Irénée duPont, Jr.; Norman B. Leventhal; George P. Gardner; Mitchell W. Spellman; D. Reid Weedon, Jr.; Colby H. Chandler; Carl M. Mueller; Louis W. Cabot; Christian J. Matthew; Paul M. Cook; William S. Edgerly; Frank Press; Edward E. David, Jr.; Emily V. Wade; Angus N. MacDonald; George N. Hatsopoulos; Charles H. Spaulding; Mary Frances Wagley; Michael M. Koerner; Morris Tanenbaum; Breene M. Kerr; W. Gerald Austen; Richard P. Simmons; Morris Chang; Paul E. Gray; Alexander W. Dreyfoos, Jr.; Ronald A. Kurtz; DuWayne J. Peterson, Jr.; Raymond S. Stata; Brit J. d'Arbeloff; Gordon M. Binder; Dana G. Mead

Members' names are listed in chronological order of election to each category.

**member of the Executive Committee*

Table of Contents

Report of the Treasurer

To Members of the Corporation

In fiscal 2011, MIT continued to improve its financial strength as it celebrated and reflected on its 150 years as an Institute and took important steps to embrace its future thoughtfully and responsibly.

Over the 150 days leading up to commencement, the global MIT community celebrated MIT's 150 years of excellence and innovation. MIT marked this milestone with symposia, performances, exhibitions and gatherings, including the Sesquicentennial Convocation, through which we reflected on the Institute's past contributions and drew inspiration for our future. These events have reminded us that MIT serves as a beacon to the world as the embodiment of excellence in science, technology and entrepreneurship.

The Institute's financial strengthening can be highlighted in several ways.

On an ongoing basis, MIT's financial strength is measured by its total net assets. This gauge of our net worth increased by 17.3 percent from fiscal 2010 to $12,105.7 million at June 30, 2011. Key elements of this balance sheet measure are investments, physical plant and other assets, offset by debt and other liabilities. This year's advance brings us closer to our historic peak of $12,770.0 million reached at fiscal 2008 year-end. The most important driver of this improvement was the excellent performance of our invested assets which are managed by our MIT Investment Management Company (MITIMCo).

For the fourth consecutive year, MIT's consolidated operating activities were in fiscal balance, generating a cumulative four-year surplus of revenues over expenses totaling $756.9 million. While our results of operations always reflect some timing differences between receipt and expenditure of funds in various units across MIT as well as endowment payout decisions, four successive years of operating surpluses since 2008 point to the fundamental overall financial discipline exercised by the MIT community. Importantly, in fiscal 2011, we completed the multi-year adjustment process required to sustain that balance after the 2008 market downturn. These adjustments included a significant reduction in endowment payout accompanied by the final phase of our three-year, fifteen percent general budget rebasing. The collaboration of faculty, staff, students and alumni to achieve those budget reductions and to develop numerous initiatives from the Institute-wide Planning Task Force has strengthened the fabric of MIT.

With respect to our physical resources, in fiscal 2011, we placed in service two important academic and research buildings, the Koch Institute for Integrative Cancer Research and the new building for the Sloan School of Management; and in recent weeks, the newly renovated Maseeh Hall (formerly W1 or Ashdown House) welcomed 468 undergraduates.

All three buildings opened on time and below their combined $577.0 million budgets, thanks to strong partnerships between our research and academic colleagues and our facilities and other staff professionals. Other capital projects, primarily renovations, have been, or are being, executed with similar success.

Looking to the future of MIT's physical resources, fiscal 2011 saw the launch of MIT 2030, which was presented to the Corporation last October. MIT 2030 provides a comprehensive framework, which will continuously evolve over time, to guide campus renovation and construction planning over the coming decades, and to form the basis of fundraising and MIT's borrowing plans to support capital projects and initiatives. MIT 2030 was developed through a multi-year process led by our academic leadership to envision the future of the Institute's academic and research mission and to identify the physical resources required to fulfill that mission.

In fiscal 2011, the debt portion of the funding to support the capital investments envisioned in the first decade of MIT 2030 was secured. In May 2011, MIT completed an historic issuance of $750 million of hundred-year taxable bonds, taking advantage not only of favorable interest rates but also unprecedented investor demand for MIT's AAA credit, which was affirmed based on the comprehensive view offered by the MIT 2030 framework.

These hundred-year bonds are a stable, low cost source of funds for campus renovation and construction, and, in conjunction with anticipated gift funding in about an equal amount, will enable the roughly $1.5 billion level of capital projects we deem actionable, given our current financial resources, to advance the first decade of the overall MIT 2030 campus vision.

Following are additional details on MIT's fiscal 2011 Statements of Financial Position and Statements of Activities.

Statements of Financial Position

The following discussion highlights key elements of MIT's financial position – net assets, investments, endowment, land, buildings and equipment, borrowings, retirement plan assets and accrued benefit liabilities.

Net Assets

Total net assets increased to $12,105.7 million, up 17.3 percent from fiscal 2010 and approaching MIT's historic peak level achieved at fiscal year-end 2008 of $12,770.0 million.

Net assets are presented in three categories to recognize the significant ways in which universities are different from profit-making organizations. These categories reflect the nature of the restrictions placed on gifts by donors.

Permanently restricted net assets represent those gifts for which the original principal is to be preserved. This category includes gifts and pledges to true endowment together with assets held in trust, such as life income funds, which, when received or matured, will be added to the endowment. The increase in permanently restricted net assets of $356.0 million, or 16.9 percent, to a total of $2,457.9 million, primarily reflects new gifts and pledges made to permanently restricted endowment funds.

Temporarily restricted net assets represent those gifts that ultimately can be used to fund operating or capital expenditures. They require an event or lapse of time to occur before they are available for spending. Approximately 90 percent of the assets in this category are accumulated market gains on permanently restricted endowment funds. This category also includes pledges not permanently restricted, gifts for construction projects that have not been completed and put into use, and life income funds, which, upon maturity, will be available for spending. The increase in temporarily restricted net assets of $581.5 million, or 13.0 percent, to a total of $5,044.5 million, primarily resulted from the increase in the market value of assets held in permanently restricted funds. The Commonwealth of Massachusetts requires that all universities located within the Commonwealth report accumulated market gains on both permanently and temporarily restricted net assets as temporarily restricted net assets until appropriated for use.

Unrestricted net assets comprise all the remaining economic resources available to MIT. This category includes MIT's working capital and those assets, designated by MIT as "funds functioning as endowment," to be invested over the long term to generate support for MIT's operations and capital projects. Also included in this category are current funds received from donors for restricted purposes that, under generally accepted accounting principles (GAAP) in the United States of America, are categorized as unrestricted if MIT spends an equivalent amount of unrestricted funds for the same purpose. Unrestricted net assets increased $844.0 million, or 22.5 percent, to a total of $4,603.3 million. The increase in unrestricted net assets is due primarily to the increase in unrestricted endowment value, investment gain on other invested funds, release of temporarily restricted funds when the buildings are put into use and the improvement of the retirement plan's overfunded status. During fiscal 2010, unrestricted net assets were decreased by $4.8 million to offset investment losses on permanently restricted net assets where market value dropped below book value. These investment losses reversed in fiscal 2011 and an adjustment of $22.0 million was made to increase unrestricted net assets.

Investments

Investments at fair value were $12,199.5 million at June 30, 2011, an increase of $2,285.6 million, or 23.1 percent, from $9,913.9 million in the previous year. Over the past five years, total invested assets have increased to $12,199.5 million from $9,500.2 million while distributions for expenditures have totaled $2,367.1 million. More specific information is included in Note B to the financial statements.

The financial statements include both realized and unrealized gains and losses on investments. Realized and unrealized gains and losses, including those related to the disposition of fixed assets, increased from a gain of $784.3 million in fiscal 2010 to a gain of $1,483.7 million in fiscal 2011.

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 towards inefficient markets such as private equity, real estate, and marketable alternatives. Marketable alternatives include investments in absolute return strategies, distressed debt, and hedge funds. Total asset allocation among equity, marketable alternatives, and real estate investments in fiscal 2011 was slightly lower than that in fiscal 2010. Equity, marketable alternatives, and real estate investments at market value were 81.1 percent of investments as of June 30, 2011, as compared to 83.7 percent at June 30, 2010.

MIT primarily invests through external fund managers, thereby allowing MIT to tap into 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. Decisions regarding the selection of managers, direct investments, and asset allocation are conducted by MITIMCo. The Board of Directors of MITIMCo holds four regularly scheduled meetings during the fiscal year where investment policy, performance, and asset allocation are reviewed with MITIMCo professionals.

Endowment and Similar Funds

Endowment assets are managed to maximize total investment return relative to appropriate risk. The market value of investments in the endowment and similar funds, excluding pledges for endowed purposes, totaled \$9,712.6 million as of June 30, 2011 and \$8,317.3 million as of June 30, 2010 and approached the peak year-end level reached in fiscal 2008 of \$9,947.6 million

This year, MIT's core Pool A endowment produced a return of 17.9 percent. Investment income and a portion of gains are distributed for spending in a manner that over the long term preserves for reinvestment an amount at least equal to annual inflation on the value of the investment at the beginning of that year. Endowment funds invested in Pool A, MIT's primary investment pool, receive distributions based on relative ownership which is valued monthly.

Land, Buildings, and Equipment

Land, buildings and equipment had a net book value of \$2,451.5 million as of June 30, 2011, an increase of 5.3 percent from \$2,327.8 million as of June 30, 2010, driven by expenditures for research and educational facilities, including the completion of the new 367,000 square-foot Koch Institute for Integrative Cancer Research as well as a new 217,000 square-foot building for the Sloan School of Management.

In addition to the buildings placed in service by fiscal year-end, the newly-renovated Fariborz Maseeh Hall welcomed students last month. This historic 1900 building at the corner of Massachusetts Avenue and Memorial Drive was constructed before MIT's move to Cambridge in 1916 and for many years served as graduate student housing, with the name of Ashdown House, before the completion of New Ashdown graduate dormitory, which opened in August 2008. Maseeh Hall supports the Institute's goal of returning MIT's undergraduate population to the 4,500 level. This major renovation was put on hold after the market downturn in 2008, but was subsequently made possible as funding was provided through generous gifts of alumni donors.

These three projects, among others, are part of ongoing campus development that adds state-of-the-art facilities for emerging areas of research, increases educational infrastructure to support residential and community life, and renews and renovates our existing physical resources.

MIT 2030

This year, we launched MIT 2030 as a comprehensive framework for planning for our physical resources. MIT 2030 grew out of a long term visioning process by MIT's academic leadership aimed at assuring MIT's premiere position in education and research in the coming decade. MIT 2030 lays out options to provide the physical platform worthy of that mission. This framework makes provision for new buildings where required for cutting edge science and technology research. In addition, MIT 2030 incorporates a strong commitment to campus renovation and renewal through proposed whole-building and Main Group section renovations, selective interventions in long-serving buildings, as well as broadly distributed updating of basic campus infrastructure. The aspirations for our physical resources set forth in MIT 2030 will take many years to achieve. As a first step, an actionable set of options for the 2010-2020 decade has been identified, carrying an estimated cost of \$1.5 billion. Based on our current financial position, a program of that magnitude can be accomplished if funded equally by fundraising and debt.

An important dimension of the MIT 2030 process has been to integrate into the broad vision of our campus the campus neighborhood development activity which is conducted by the MITIMCo real estate group. This program continues to achieve its goals of providing attractive commercial real estate returns for the endowment, improving the campus neighborhood and providing opportunities for large and small companies and institutes to locate in close proximity to MIT.

Debt and Other Assets and Liabilities

In May 2011, based on the MIT 2030 vision of capital programs for the coming decade, MIT took the opportunity offered by the favorable interest rate environment and receptivity to MIT's AAA credit, which was affirmed based on the comprehensive view offered by the MIT 2030 framework, to issue an historic \$750 million of hundred-year maturity taxable bonds. These funds will be held until required for capital projects envisioned in the 2010-2020 decade of MIT 2030. At fiscal year-end 2011, MIT's total borrowings, which primarily support completed or future capital projects, were \$2,467.8 million, up from \$1,728.5 million a year ago.

MIT's defined benefit pension plan had assets of $2,572.3 million and liabilities of $2,458.6 million, resulting in a net pension asset of $113.7 million at fiscal year-end 2011. MIT also maintains a postretirement welfare benefit plan with assets of $311.6 million and liabilities of $509.8 million, resulting in a net benefits liability of $198.2 million at fiscal year-end 2011. The funding status of both plans improved in fiscal 2011 primarily due to favorable investment results. The investments of both plans are managed by MITIMCo. MIT also offers a 401k plan to its employees, which is not reflected on the balance sheet, invested at the direction of participants in a broad array of investment funds.

Statements of Activities

Operating Activities

In fiscal 2011, we grew our research activity and maintained excellence in our education mission while exercising expense control in core administrative areas. MIT ended the year with a surplus from operations of $179.5 million, $101.0 million lower than the fiscal 2010 result. The MIT community has demonstrated its commitment to financial discipline by achieving an operating surplus in each of the past four years.

Operating revenues increased $87.5 million, or 3.3 percent, to $2,750.6 million, while operating expenses increased $188.6 million, or 7.9 percent, to a total of $2,571.1 million.

Year-over-year comparisons of the components of operating results are influenced by fundamental trends, as well as such drivers as timing differences between receipt of revenues and related expenditures in various units across the Institute and policy decisions on endowment payout. The Operating Activities section of our Statements of Activities on pages 12 and 13 sets forth details on these trends. Some of the specific trends in various revenue and expense categories are described below.

Operating Revenues

MIT's operating revenues include tuition, research, unrestricted gifts and bequests for current use, fees and services, other programs, investment income, the portion of net investment gains distributed to funds under MIT's spending policy, auxiliaries, and payments on pledges for unrestricted gifts.

Tuition revenue for graduate, undergraduate and non-degree executive programs net of financial aid grew by $15.2 million, or 6.4 percent, to $253.5 million. Reflecting MIT's commitment to increasing the affordability of undergraduate education, financial aid for undergraduate students grew to $85.9 million, or 2.6 percent, from fiscal 2010, and has increased a total of $31.4 million, or 57.6 percent, over the last five years.

MIT demonstrated strong growth in and diversity of research funding in fiscal 2011. Total research revenues increased to $1,447.2 million, up $77.6 million, or 5.7 percent, from the previous year. Of these amounts, campus labs and centers at MIT experienced a $14.8 million, or 2.4 percent, increase in research revenues to $618.9 million, and research revenues at Lincoln Laboratory totaled $804.8 million, an increase of $60.5 million, or 8.1 percent. The Singapore-MIT Alliance for Research and Technology (SMART) generated $23.5 million of research revenue during fiscal 2011, an increase of $2.4 million, or 11.2 percent, for research activities taking place in Singapore. Cumulative research awards and other funding received via the American Recovery and Reinvestment Act of 2009 (ARRA) totaled $150.4 million as of June 30, 2011. Of this figure, amounts expended for research in fiscal 2011 are included in the figures above.

Research revenues include reimbursement from sponsors for both direct and indirect (facilities and administration) costs. MIT's modified total direct research expenditures, which form the basis for recovery of indirect costs, increased by $52.9 million, or 6.8 percent.

Growth in MIT's campus research is being driven by both Federal and non-Federal sponsors. Total Federal sponsorship of research grew $31.6 million, or 7.2 percent, to $469.5 million. Research volume sponsored by the Department of Health and Human Services grew $8.1 million, or 5.6 percent, to $152.7 million. Similarly, research volume sponsored by the Department of Defense increased $0.9 million, or 0.8 percent, to $107.8 million; Department of Energy volume grew by $16.3 million, or 22.2 percent, to $89.6 million; National Science Foundation volume grew by $5.1 million, or 7.2 percent, to $74.9 million; and volume sponsored by the National Aeronautics and Space Administration decreased $2.5 million, or 8.3 percent, from last year to $28.1 million.

Non-Federal funding for campus research increased by $0.9 million, or 0.5 percent, to $178.2 million, with the greatest increase coming from industry sponsors, offset by a decrease in non-profit funding.

While research is our largest source of revenue, we experienced growth in other revenue categories as well, the largest being revenues from fees and services at $199.0 million, an increase of 22.6 percent. MIT's investment income and gain distribution to support operations declined by $62.0 million to $496.8 million in fiscal 2011 as we implemented the planned payout reduction required to reach sustainable payout levels after the 2008 market downturn. The distribution rate on endowed funds was 5.3 percent, or 4.9 percent on a three-year-average basis, in fiscal 2011. Growth in MIT's combined revenue categories was sufficient to offset the endowment distribution decrease and resulted in our overall operating revenue growth of 3.3 percent to $2,750.6 million.

Operating Expenses

Operating expenses grew to $2,571.1 million, an increase of 7.9 percent. This consolidated result combines differing underlying trends in units funded by the general Institute unrestricted budget, the research enterprise and expenditures from accumulated unit fund balances.

Overall Institute salary costs rose 4.1 percent while employee benefits costs rose 23.4 percent. The benefit increase results from amortization of pension investment losses of fiscal 2009 as required by US GAAP. Behind the overall salary increase, salaries funded centrally through the general Institute unrestricted budget remained flat, while salaries paid from research or designated funds grew.

Research expenses on campus and at Lincoln Laboratory grew at 4.6 percent and 7.1 percent, with salary growth in those units at 6.2 percent and 7.7 percent, respectively. Expenditures from units' funds grew by 16.1 percent with salaries from this source growing 3.3 percent.

Expenses in administrative and educational units grew 6.9 percent. Salaries were flat as units completed planned reductions in their expense levels by implementing disciplined and targeted initiatives begun in fiscal 2009 as outgrowths of the Institute-wide Planning Task Force. Though the planned rebasing of budgets has been completed, we expect to reap additional benefits from the efforts of the Task Force as we adopt further improvements in administrative and operating practices in the coming years.

Expense increases were concentrated in operating categories other than salaries. Supplies and services grew by 10.7 percent; depreciation increased by 12.0 percent; and interest expense grew by 29.9 percent. The cost of utilities, rent and repairs declined by 8.8 percent primarily due to an adjustment to MIT's obligations for asset retirements.

Non-Operating Revenues, Gains and Losses Summary

While operating activities contributed $179.5 million to MIT's increase in net assets, non-operating activities added $1,601.9 million to MIT's final fiscal 2011 total net asset balance of $12,105.7 million. Growth in invested assets net of distribution, gifts and bequests, favorable pledge activity and improvements of funding status of retirement plans were the principal contributors to positive non-operating performance.

Gifts and Pledges

As of June 30, 2011, the Campaign for Students had surpassed its goal of $500.0 million with over $578.0 million raised. The campaign was concluded concurrently with MIT's celebrations of its 150th anniversary. Gifts to the Campaign support scholarships, fellowships, educational programming, and student life activities. Another important program, the MIT Energy Initiative (MITEI) now has received funds from 1,576 donors and has raised $87.0 million in philanthropic dollars.

Gifts and pledges for fiscal 2011 totaled $522.4 million, an increase of 111.9 percent from the fiscal 2010 total of $246.6 million. Gifts from individuals represented 65.5 percent of new gifts and pledges, up from 54.5 percent in the previous year. Gifts from foundations represented 14.7 percent of new gifts and pledges in fiscal 2011, down from 21.8 percent in the previous year. Gifts from corporations and other sources represented 19.8 percent, down from 23.7 percent in fiscal 2010. New gifts and pledges for general purposes were the largest category of gifts for fiscal 2011.

MIT's full financial statements and footnotes, describing our financial position and activities through June 30, 2011 are included on the following pages.

Closing Remarks

This is my fifth and final report to the MIT Corporation as its Executive Vice President and Treasurer. It has been an honor and privilege to work with colleagues throughout the MIT community whose passion for the Institute and its mission assures its continued preeminence. I am deeply grateful to President Hockfield and to the Corporation for allowing me to serve the Institute in this position of trust.

In closing, on behalf of the Institute, I wish to thank the MIT community for its generous financial support, advice, and collaboration throughout the year and to reaffirm our optimism for the future.

Respectfully submitted,

Theresa M. Stone
Executive Vice President and Treasurer

September 15, 2011

Massachusetts Institute of Technology

Statements of Financial Position

at June 30, 2011 and 2010

(in thousands of dollars)

	2011	2010
Assets		
Cash	$ 131,221	$ 133,973
Accounts receivable, net	261,206	203,116
Pledges receivable, net, at fair value	422,965	412,310
Contracts in progress, principally U.S. Government	68,411	68,344
Deferred charges, inventories and other assets	70,127	54,306
Student notes receivable, net	49,757	49,496
Investments, at fair value	12,199,451	9,913,877
Minority interests	282,041	230,433
Retirement plan asset-overfunded status	113,715	18,841
Land, buildings & equipment (at cost $3,406,169 for June 2011; $3,208,140 for June 2010), net of accumulated depreciation	2,451,479	2,327,810
Total assets	$ 16,050,373	$ 13,412,506
Liabilities and Net Assets		
Liabilities:		
Accounts payable, accruals and other liabilities	$ 366,161	$ 309,098
Liabilities due under life income fund agreements, at fair value	84,225	74,256
Minority interests	282,041	230,433
Deferred revenue and other credits	123,215	112,516
Advance payments	389,253	362,147
Borrowings	2,467,825	1,728,526
Government advances for student loans	33,754	33,590
Accrued benefit liabilities	198,209	237,635
Total liabilities	3,944,683	3,088,201
Net Assets:		
Unrestricted	4,603,280	3,759,301
Temporarily restricted	5,044,519	4,463,066
Permanently restricted	2,457,891	2,101,938
Total net assets	12,105,690	10,324,305
Total liabilities and net assets	$ 16,050,373	$13,412,506

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

Massachusetts Institute of Technology

Statements of Activities

for the years ended June 30, 2011 and 2010

(in thousands of dollars)

	Unrestricted		Temporarily Restricted	
	2011	2010	2011	2010
Operating Activities				
Operating Revenues:				
Tuition and similar revenues, net of discount of $240,299 in 2011 and $230,269 in 2010	$ 253,478	$ 238,301	$ –	$ –
Research revenues:				
Direct	1,250,388	1,172,406	–	–
Indirect	196,818	197,197	–	–
Total research revenues	1,447,206	1,369,603	–	–
Gifts and bequests for current use	111,114	108,674	–	–
Fees and services	198,971	162,300	–	–
Other programs	87,133	70,439	–	–
Investment income	117,004	99,669	–	–
Net gains on investments, distributed	379,793	459,138	–	–
Auxiliary enterprises	100,135	96,015	–	–
Net asset reclassifications and transfers	55,813	58,964	–	–
Total operating revenues	2,750,647	2,663,103	–	–
Operating Expenses:				
Salaries and wages	1,006,458	967,190	–	–
Employee benefits	223,568	181,116	–	–
Supplies and services	898,284	811,780	–	–
Subrecipient agreements	120,977	117,442	–	–
Utilities, rent, and repairs	131,539	144,201	–	–
Depreciation	116,385	103,910	–	–
Interest expense	73,936	56,927	–	–
Total operating expenses	2,571,147	2,382,566	–	–
Results of operations	179,500	280,537	–	–
Non-Operating Revenues, Gains and Losses				
Pledges	–	–	97,807	67,716
Gifts and bequests	–	–	7,401	3,507
Investment Income	–	–	1,226	2,861
Net gain on investments and other assets	573,528	359,337	898,180	419,054
Distribution of accumulated investment gains	(133,843)	(152,081)	(245,950)	(307,057)
Net change in life income funds	2,406	675	8,731	5,324
Pension-related charges other than net periodic pension benefit income (cost)	105,408	(238,137)	–	–
Transfer of net assets to The Broad Institute	-	(90,975)	–	–
Net asset reclassifications and transfers	116,980	40,020	(185,942)	(129,354)
Total non-operating activities	664,479	(81,161)	581,453	62,051
Increase in net assets	843,979	199,376	581,453	62,051
Net assets at the beginning of the year	3,759,301	3,559,925	4,463,066	4,401,015
Net assets at the end of the year	$ 4,603,280	$ 3,759,301	$ 5,044,519	$ 4,463,066

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

Massachusetts Institute of Technology

Statements of Activities

for the years ended June 30, 2011 and 2010

(in thousands of dollars)

Permanently Restricted 2011	Permanently Restricted 2010	Total 2011	Total 2010	
				Operating Activities
				Operating Revenues:
$ –	$ –	$ 253,478	$ 238,301	Tuition and similar revenues, net of discount of $240,299 in 2011 and $230,269 in 2010
				Research revenues:
–	–	1,250,388	1,172,406	Direct
–	–	196,818	197,197	Indirect
–	–	1,447,206	1,369,603	Total research revenues
–	–	111,114	108,674	Gifts and bequests for current use
–	–	198,971	162,300	Fees and services
–	–	87,133	70,439	Other programs
–	–	117,004	99,669	Investment income
–	–	379,793	459,138	Net gains on investments, distributed
–	–	100,135	96,015	Auxiliary enterprises
–	–	55,813	58,964	Net asset reclassifications and transfers
–	–	2,750,647	2,663,103	Total operating revenues
				Operating Expenses:
–	–	1,006,458	967,190	Salaries and wages
–	–	223,568	181,116	Employee benefits
–	–	898,284	811,780	Supplies and services
–	–	120,977	117,442	Subrecipient agreements
–	–	131,539	144,201	Utilities, rent, and repairs
–	–	116,385	103,910	Depreciation
–	–	73,936	56,927	Interest expense
–	–	2,571,147	2,382,566	Total operating expenses
–	–	179,500	280,537	Results of operations
				Non-Operating Revenues, Gains and Losses
12,770	28,651	110,577	96,367	Pledges
293,317	38,032	300,718	41,539	Gifts and bequests
7,480	4,442	8,706	7,303	Investment income
11,961	5,957	1,483,669	784,348	Net gain on investments and other assets
–	–	(379,793)	(459,138)	Distribution of accumulated investment gains
17,276	9,038	28,413	15,037	Net change in life income funds
–	–	105,408	(238,137)	Pension-related charges other than net periodic pension benefit income (cost)
–	–	–	(90,975)	Transfer of net assets to The Broad Institute
13,149	30,370	(55,813)	(58,964)	Net asset reclassifications and transfers
355,953	116,490	1,601,885	97,380	Total non-operating activities
355,953	116,490	1,781,385	377,917	Increase in net assets
2,101,938	1,985,448	10,324,305	9,946,388	Net assets at the beginning of the year
$ 2,457,891	$ 2,101,938	$ 12,105,690	$ 10,324,305	Net assets at the end of the year

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

Massachusetts Institute of Technology

Statements of Cash Flows

for the years ended June 30, 2011 and 2010

(in thousands of dollars)

	2011	2010
Cash Flow from Operating Activities:		
Increase in net assets	$ 1,781,385	$ 377,917
Adjustments to reconcile change in net assets to net cash used in operating activities:		
Net gain on investments	(1,483,669)	(784,348)
Change in retirement plan asset, net of change in accrued benefit liability	(134,300)	209,499
Depreciation	116,385	103,910
Gifts of securities	(1,921)	(4,135)
Net gain on life income funds	(25,383)	(5,144)
Transfer of land, buildings and equipment to The Broad Institute	–	82,563
Amortization of bond premiums and discounts and other adjustments	(7,949)	(3,823)
Change in operating assets and liabilities:		
Pledges receivable	(10,655)	52,426
Accounts receivable	(58,090)	37,908
Contracts in progress	(67)	17,477
Deferred charges, inventories and other assets	(15,821)	9,246
Accounts payable, accruals and other liabilities, excluding building and equipment accruals	68,948	4,765
Liabilities due under life income fund agreements	9,969	1,650
Deferred revenue and other credits	10,699	(62,554)
Advance payments	27,106	18,851
Reclassify investment income	(8,706)	(7,303)
Reclassify contributed securities received as payment on pledges	(27,380)	(28,121)
Reclassify contributions restricted for long-term investment	(300,718)	(41,539)
Net cash used in operating activities	(60,167)	(20,755)
Cash Flow from Investing Activities:		
Purchase of land, buildings and equipment	(251,932)	(387,908)
Purchases of investments	(41,050,404)	(37,941,462)
Proceeds from sale of investments, including contributed securities	40,570,574	38,373,562
Student notes issued	(9,967)	(9,641)
Collections from student notes	9,282	8,863
Net cash (used in) provided by investing activities	(732,447)	43,414
Cash Flow from Financing Activities:		
Proceeds from contributions restricted for:		
Investment in endowment	293,317	38,032
Investment in plant and other	7,401	3,507
Less: contributed securities, gifts for endowment, plant and other	(267,356)	(7,080)
Total proceeds from contributions	33,362	34,459
Increase in investment income for restricted purposes	8,706	7,303
Proceeds from borrowings	750,000	–
Repayment of borrowings	(2,370)	(2,260)
Increase in government advances for student loans	164	249
Net cash provided by financing activities	789,862	39,751
Net (decrease) increase in cash	(2,752)	62,410
Cash at the beginning of the year	133,973	71,563
Cash at the end of the year	$ 131,221	$ 133,973

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

Notes to 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 financial statements include MIT and its wholly-owned subsidiaries.

Net assets, revenues, expenses, gains and losses are classified into three categories based on the existence or absence of donor-imposed restrictions. The categories are permanently restricted, temporarily restricted, and unrestricted net assets. Unconditional promises to give (pledges) are recorded as receivables and revenues within the appropriate net asset category.

Permanently restricted net assets include gifts, pledges, trusts and remainder interests, and income and gains that are required by donors to be permanently retained. Pledges, trusts, and remainder interests are reported at their estimated fair values.

Temporarily restricted net assets include gifts, pledges, trusts and remainder interests, and income and gains that can be expended but for which restrictions have not yet been met. Such restrictions include purpose restrictions where donors have specified the purpose for which the net assets are to be spent, or time restrictions imposed by donors or implied by the nature of the gift (capital projects, pledges to be paid in the future, life income funds), or by interpretations of law (net gains on permanently restricted gifts that have not been appropriated for spending). Gifts specified for the acquisition or construction of long-lived assets are reported as temporarily restricted net assets until the monies are expended and the buildings are put into use, at which point they are reclassified to unrestricted net assets. Net unrealized losses on permanently restricted endowment funds for which the book value exceeds market value are recorded as a reduction to unrestricted net assets.

Unrestricted net assets are all the remaining net assets of MIT. Donor-restricted gifts and unexpended restricted endowment income that are received and either spent, or the restriction is otherwise met within the same year, are reported as unrestricted revenue. Gifts of long-lived assets are reported as unrestricted revenue.

Net asset reclassifications and transfers consist primarily of payments on unrestricted pledges and use of building funds in accordance with donor restrictions for buildings put into use during the year. Expirations of temporary restrictions on net assets, release of permanent restrictions by a donor, and change of restrictions imposed by donors are also reported as reclassifications of net assets among unrestricted, temporarily and permanently restricted net assets.

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 the funds from MIT's investment pools. See Note K for further information on income distributed to funds.

MIT's operations include tuition, research revenues, unrestricted gifts and bequests for current use, fees and services, other programs, investment income, the portion of net investment gains distributed to funds under MIT's spending policy, auxiliary revenues, payments on pledges for unrestricted gifts, and operating expenditures. Results of operations are displayed in the Statements of Activities.

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 July 2001.

Restricted Cash

Certain cash balances, totaling $42.5 million and $83.1 million at June 30, 2011 and 2010, respectively, are restricted for use under certain sponsored research agreements.

Sponsored Research

Revenue associated with contracts and grants is recognized as related costs are incurred. The capital costs of buildings and equipment are depreciated over their estimated life cycle and the sponsored research recovery allowance for depreciation is treated as indirect research revenue. MIT has recorded reimbursement of indirect costs relating to sponsored research at negotiated fixed billing rates. The income generated by the negotiated rates is adjusted each fiscal year to reflect any variance between the negotiated fixed rates and rates based on actual cost. 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 carry forward (over or under-recovery). The carry forward is included in the calculation of negotiated fixed billing rates in future years. Any adjustment in the rate is charged or credited to unrestricted net assets.

A. Accounting Policies (continued)

Land, Buildings and Equipment

Land, buildings and equipment are shown at cost when purchased or fair value as of the date of a gift when received as gifts, 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. 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 $37.5 million and $98.2 million during 2011 and 2010, respectively. Land, buildings and equipment at June 30, 2011 and 2010 are shown in Table 1 below.

Table 1. Land, Buildings and Equipment

(in thousands of dollars)	2011	2010
Land	$ 59,598	$ 59,598
Land improvements	60,795	61,830
Educational buildings	2,936,816	2,425,618
Equipment	164,909	149,320
Software	29,938	36,733
Total	**3,252,056**	**2,733,099**
Less: accumulated depreciation	(954,690)	(880,330)
Construction in progress	142,788	471,514
Software projects in progress	11,325	3,527
Land, buildings and equipment	**$ 2,451,479**	**$2,327,810**

Depreciation expense was $116.4 million in 2011 and $103.9 million in 2010. Net interest expense of $6.6 million and $17.6 million was capitalized during 2011 and 2010, respectively, in relation to MIT's construction projects.

Tuition and Financial Aid

Tuition and similar revenues, shown in Table 2 below, include tuition and fees in degree programs as well as tuition and fees for executive and continuing education programs at MIT.

Table 2. Tuition and Similar Revenues

(in thousands of dollars)	2011	2010
Tuition revenue	$ 457,494	$ 432,778
Executive and continuing education revenues	36,283	35,792
Total	**493,777**	**468,570**
Less: tuition discount	(240,299)	(230,269)
Net tuition & similar revenue	**$ 253,478**	**$ 238,301**

Tuition support 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. Total financial aid granted to students was $409.8 million and $397.4 million in 2011 and 2010, respectively. Of that amount, $125.8 million in 2011 and $125.5 million in 2010 were aid from sponsors. Tuition support from MIT sources is displayed as tuition discount. Components of financial aid are detailed in Table 3 below.

Table 3. Financial Aid

	2011			2010		
(in thousands of dollars)	Institute sources	External sponsors	Total financial aid	Institute sources	External sponsors	Total financial aid
Tuition support	$ 240,299	$ 53,756	$ 294,055	$ 230,269	$ 54,722	$ 284,991
Stipends	17,680	12,755	30,435	15,850	12,254	28,104
Student salaries	26,051	59,284	85,335	25,820	58,484	84,304
Total	**$ 284,030**	**$ 125,795**	**$ 409,825**	**$ 271,939**	**$ 125,460**	**$ 397,399**

A. Accounting Policies (continued)

Gifts and Pledges

Gifts and pledges are recognized when received. Gifts of securities are recorded at their fair value at the date of contribution. Gifts of equipment received from manufacturers and other donors are put into use and recorded by MIT at fair value. Gifts of equipment totaled $0.4 million and $0.6 million in 2011 and 2010, respectively. Pledges in the amount of $423.0 million and $412.3 million were recorded as receivables at June 30, 2011 and 2010, respectively, with the revenue assigned to the appropriate classification of restriction. Pledges consist of unconditional written promises to contribute to MIT in the future and are recorded after discounting the future cash flows to the present value.

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.

Advance Payments

Amounts received by MIT from the U.S. Government, corporations, industrial sources, foundations, and other non-MIT sponsors under the terms of agreements that generally require the exchange of assets, rights, or privileges between MIT and the sponsor are recorded as advance payments. Revenue is recognized when MIT fulfills the terms of the agreement.

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.

A rollforward of liabilities due under life income fund agreements is presented in Table 4.

Recently Adopted Accounting Standards

On July 1, 2010, MIT adopted new guidance enhancing the *Fair Value Measurement* standard. This standard requires further disclosure of significant transfers in and out of Level 1 and Level 2 fair value measurements, including the reasons for the transfers, and requires discussions of their fair value measurement disclosures on a disaggregated basis. Refer to Note B for further details.

On July 1, 2010, MIT adopted the accounting standard, *Credit Quality*. This standard requires the disclosure about the credit quality of financing receivables and the related allowance for credit losses. The disclosures are included in Note E.

On July 1, 2009, MIT adopted the *Fair Value Measurements* standard for estimating the fair value of investments in investment companies (limited partnerships) that have a calculated value of their capital account or net asset value (NAV) in accordance with, or in a manner consistent with, US GAAP. As a practical expedient, MIT is permitted under US GAAP to estimate the fair value of an investment at the measurement date using the reported NAV without further adjustment unless the entity expects to sell the investment at a value other than NAV or the NAV is not calculated in accordance with US GAAP. MIT's investments in private equity, real estate and marketable alternatives are fair-valued based on the most current NAV.

On July 1, 2009, MIT adopted the accounting standard, *Disclosures about Derivative Instruments*. This standard requires specific tabular disclosures presenting the fair value amounts of derivative instruments for assets and liabilities and their location on the balance sheet, as well as disclosure of derivative gains and losses and their location on the income statement. The new disclosure requirements call for specific fair value and gain/loss information by the derivative instrument's primary underlying risk exposure (for example, interest rate, credit, foreign exchange rate, or overall price) on a gross basis.

Table 4. Liabilities Due Under Life Income Funds

(in thousands of dollars)	2011	2010
Balance at beginning of year	$ 74,256	$ 72,606
Additions for new gifts	8,907	5,123
Terminations and payments to beneficiaries	(12,164)	(10,845)
Net investment and actuarial gain	13,226	7,372
Balance at end of year	**$ 84,225**	**$ 74,256**

A. Accounting Policies (continued)

On July 1, 2009, MIT adopted the accounting standard, *Disclosures about Postretirement Benefit Plan Assets*. This standard provides guidance on expanded disclosures for plan assets of a defined benefit pension or other postretirement plan. The adoption has no impact on the valuation of MIT's postretirement benefit plans. It does however require additional disclosures included in Note J.

Minority Interests

MIT is the general partner for several private equity funds and has displayed the noncontrolling interests as minority interests on the Statements of Financial Position.

Non-Cash Items

Non-cash transactions excluded from the Statements of Cash Flows include the increase in minority interest of \$51.6 million and \$62.1 million, as well as \$23.2 million and \$35.1 million of accrued liabilities related to plant and equipment purchases for 2011 and 2010, 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.

Reclassifications

Certain June 30, 2010 balances and amounts previously reported have been reclassified to conform to the June 30, 2011 presentation.

Subsequent Events

MIT has evaluated subsequent events through September 15, 2011, the date 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.

B. Investments

Investment transactions are accounted for on the trade date. Realized gains and losses are recorded by MIT using the average cost basis. Dividend income is recorded on the ex-dividend date.

As discussed in Note A, MIT values its investments in accordance with the principles of accounting standards which establish 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 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 – Quoted prices in active markets for identical assets or liabilities. Market price data is generally obtained from relevant exchange or dealer markets.

• Level 2 – Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the same term of the assets or liabilities. Inputs are obtained from various sources including market participants, dealers, and brokers.

• Level 3 – Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

A financial instrument's categorization within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement. Investments may be classified as Level 2 when market information (observable net asset values) is available, yet the investment is not traded in an active market. Market information, including observable net asset values, subscription and redemption activity, if applicable, and the length of time until the investment will become redeemable are considered when determining the proper categorization of the investment's fair value measurement within the fair valuation hierarchy. Fund investments that have observable market inputs (published net asset values) and from which MIT has the ability to redeem within twelve months of June 30 are classified in the fair value hierarchy as Level 2.

Investment funds that have unobservable inputs or from which MIT does not have the ability to redeem within twelve months are classified in the fair value hierarchy as Level 3.

B. Investments (continued)

Table 5 below presents MIT's investments at fair value as of June 30, 2011, grouped by the valuation hierarchy as defined in this note. There were no significant transfers in and out of Level 1 and Level 2 fair value measurements in 2011.

Table 5. Investments

(in thousands of dollars)	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant un-observable inputs (Level 3)	Total fair value
Fiscal year 2011				
Cash and cash equivalents	$ 1,175,776	$ –	$ –	$ 1,175,776
Fixed income	601,874	319,033	76,652	997,559
Long equities	1,664,111	156,424	5,229,110	7,049,645
Short equities	(628,455)	(122)	–	(628,577)
Marketable alternatives	–	470,086	1,341,920	1,812,006
Real estate	–	–	1,659,027	1,659,027
Perpetual trusts	–	–	64,040	64,040
Interest rate, credit & other derivatives	(1,752)	71,727	–	69,975
Total investments	**$ 2,811,554**	**$ 1,017,148**	**$ 8,370,749**	**$ 12,199,451**
Fiscal year 2010				
Cash and cash equivalents	$ 788,453	$ –	$ –	$ 788,453
Fixed income	582,090	126,108	73,406	781,604
Long equities	1,377,596	137,280	4,130,241	5,645,117
Short equities	(518,545)	–	–	(518,545)
Marketable alternatives	–	415,808	1,399,085	1,814,893
Real estate	–	–	1,352,644	1,352,644
Perpetual trusts	–	–	53,134	53,134
Interest rate, credit & other derivatives	(1,592)	(1,831)	–	(3,423)
Total investments	**$ 2,228,002**	**$ 677,365**	**$ 7,008,510**	**$ 9,913,877**

Cash and cash equivalents include cash, money market funds, repurchase agreements and negotiable certificates of deposit and are valued at cost, which approximates fair value. Fixed income investments include US government, agency, and other obligations. Fixed income investments are generally valued using independent pricing sources that use broker quotes or models using market observable inputs. Equity investments include public equities and private equity investment funds. Public equities are generally valued based on the closing price listed on a public securities exchange. Marketable alternatives include investments in absolute return strategies, distressed debt, and hedge funds. Private equity and marketable alternative investments generally consist of funds and limited partnerships managed by external managers. Securities held in these external investment vehicles that do not have readily determinable fair values are determined by the external managers and are based on appraisals or other estimates that require varying degrees of judgment. If no public market exists for the investment securities, the fair value is determined by the external managers taking into consideration, among other things, the cost of the securities, prices of recent significant placements of securities of the same issuer, and subsequent developments concerning the companies to which the securities relate. 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, US GAAP. As a practical expedient, MIT is permitted under US GAAP to estimate the fair value of its investments with external managers using the external

B. Investments (continued)

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 US GAAP. Direct real estate holdings are valued at fair market value based on external appraisals. Perpetual trusts held by third parties are valued at the present value of the future distributions expected to be received over the term of the agreement. Over-the-counter positions such as interest rate 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. Because the interest rate swaps and other derivative instruments have inputs that can generally be corroborated by market data, they are generally classified within Level 2.

The methods described above may produce a fair value that may not be indicative of net realizable value or reflective of future fair values. MIT has performed due diligence around its private equity and marketable alternative investments to ensure they are recorded at fair value as of June 30, 2011 and 2010.

Furthermore, 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.

Table 6 is a rollforward of the investments classified by MIT within Level 3 of the fair value hierarchy defined on page 18 at June 30, 2011 and 2010.

All net realized and unrealized gains and losses relating to financial instruments held by MIT and shown in Table 5 are reflected in the Statements of Activities. Cumulative unrealized gains related to Level 3 investments totaled $2,012.9 million at June 30, 2011 and $1,260.0 million at June 30, 2010.

Table 6. Rollforward of Level 3 Investments

(in thousands of dollars)	Fixed income	Equities	Marketable alternatives	Real estate	Perpetual trusts	Total investments
Fiscal year 2011						
Fair value, July 1, 2010	$ 73,406	$ 4,130,241	$ 1,399,085	$ 1,352,644	$ 53,134	$ 7,008,510
Realized gains (losses)	(8)	9,965	(1)	–	–	9,956
Unrealized gains	919	572,184	156,892	174,570	10,906	915,471
Net purchases, sales, and settlements	2,335	516,720	(165,830)	131,813	–	485,038
Transfer of assets between levels	–	–	(48,226)	–	–	(48,226)
Fair Value, June 30, 2011	**$ 76,652**	**$ 5,229,110**	**$ 1,341,920**	**$ 1,659,027**	**$ 64,040**	**$ 8,370,749**
Fiscal year 2010						
Fair value, July 1, 2009	$ 63,833	$ 3,979,877	$ 2,203,965	$ 1,256,126	$ 47,618	$ 7,551,419
Realized gains (losses)	–	(46)	1,868	(389)	–	1,433
Unrealized gains	9,270	282,355	203,573	76,600	5,516	577,314
Net purchases, sales, and settlements	303	(113,178)	(594,513)	20,307	–	(687,081)
Transfer of assets between levels	–	(18,767)	(415,808)	–	–	(434,575)
Fair Value, June 30, 2010	**$ 73,406**	**$ 4,130,241**	**$ 1,399,085**	**$ 1,352,644**	**$ 53,134**	**$ 7,008,510**

MIT enters into short sales whereby it sells securities which 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. On June 30, 2011 and 2010, cash collateral and certain securities owned by MIT were held at counterparty brokers to collateralize these positions and are included in investments on the Statements of Financial Position.

Certain investments in real estate, equities, and private investments may be subject to restrictions that (i) limit MIT's ability to withdraw capital after such investment and (ii) may be subject to limitations that limit the amount that may be withdrawn as of a given redemption date. Most marketable alternative investments are held in funds where withdrawal is limited to monthly, quarterly, or other periods, and may require notice periods. In addition,

B. Investments (continued)

certain 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. Generally, MIT has no discretion as to withdrawal with respect to its investment in private equity and real estate 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 fifteen to twenty years. These restrictions may limit MIT's ability to respond quickly to changes in market conditions. MIT does have various sources of internal liquidity at its disposal, including cash, cash equivalents, marketable debt and equity securities, and lines of credit.

The unfunded commitments that MIT has made to various investments at June 30, 2011 and 2010 are listed in Table 7 below. MIT expects these funds to be called currently and for a period to extend up to fifteen years.

Table 7. Unfunded Commitments

(in thousands of dollars)	2011	2010
Equities	$ 1,275,577	$ 1,362,357
Marketable alternatives	66,410	111,897
Real estate	510,321	456,656
Total unfunded commitments	**$ 1,852,308**	**$ 1,930,910**

C. Derivative Financial Instruments

Effective July 1, 2009, MIT adopted an accounting standard which required entities to provide additional disclosures regarding derivative instruments held.

During the year ended June 30, 2011, MIT maintained two interest rate swap agreements to manage the interest cost and risk associated with its variable rate debt, further described in Note G. On June 5, 2011, one of these swap agreements expired. Under the terms of the expired agreement, MIT paid a fixed rate of 4.46% on a notional amount of $125 million and received a payment indexed to the Securities Industry and Financial Market Association (SIFMA) municipal swap index rate. Under the remaining agreement, MIT pays a fixed rate of 4.91% and receives a payment indexed to SIFMA on a notional amount of $125 million. At June 30, 2011, the remaining swap agreement had a total fair value of $(32.8) million and at June 30, 2010 had a fair value of $(35.5) million. This swap portfolio had a total net gain for 2011 of $7.7 million and had $4.9 million in losses for 2010. The notional amounts of these derivatives are not recorded on MIT's Statements of Financial Position.

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 decrease its exposure to extreme market events and to partially offset exchange rate movements with respect to any currency exposure. These instruments include futures, credit default swaps, and interest rate cap and swaption agreements. The futures are exchange-traded and the swap, swaptions, and cap agreements are executed over the counter.

MIT's portfolio of interest rate caps and swaptions is designed for protection from significant increases in interest rates. An interest rate swaption is an option to enter into an interest rate swap agreement on pre-set terms at a future date. The purchaser and seller of the swaption agree on the expiration date, option type, exercise style, the terms of the underlying swap and the type of settlement. As the expiration date approaches, the swaption holder can either notify the seller of its intention to exercise or let the option expire. An interest rate cap places a ceiling on a floating rate of interest on a specified notional principal amount for a specific term. The buyer of the cap uses the cap contract to limit its maximum interest rate exposure. If the buyer's floating rate rises above the cap strike, the cap contract provides for payments from the seller to the buyer of the cap for the difference between the floating rate and the cap strike. If the floating rate remains below the cap strike, no payments are required. The cap buyer is required to pay an upfront fee or premium for the cap. The cap premium charged by the seller depends upon the market's assessment of the probability that rates will move through the cap strike over the time horizon of the deal. The payoff is expected to occur in extreme market conditions that would negatively impact other of MIT's assets.

Table 8 summarizes the notional exposure and net ending fair value relative to the financial instruments with off-balance sheet risk as of June 30, 2011 and 2010 related to MIT's investment management.

C. Derivative Financial Instruments (continued)

Table 8. Derivative Financial Instruments

(in thousands of dollars)	Notional exposure Long	Notional exposure Short	Net ending fair value *	Net gain (loss)**
Fiscal year 2011				
Fixed income instruments				
Fixed income futures	$ 2,500	$ (19,400)	$ (67)	$ 459
Options on interest rate exchange agreements	1,284,436	–	2,715	2,612
Interest rate caps and floors	2,884,777	(2,863,000)	50,947	5,413
Total fixed income instruments	4,171,713	(2,882,400)	53,595	8,484
Currency instruments				
Currency forwards	61,541	(16,884)	(126)	(830)
Total currency instruments	61,541	(16,884)	(126)	(830)
Commodity instruments				
Commodity futures	15,993	–	(110)	(379)
Equity index future	–	(29,159)	(1,449)	(1,449)
Total commodity futures	15,993	(29,159)	(1,559)	(1,828)
Credit instruments	732,533	(2,617,037)	50,873	(5,561)
2011 Total	**$ 4,981,780**	**$ (5,545,480)**	**$ 102,783**	**$ 265**
Fiscal year 2010				
Fixed income instruments				
Fixed income futures	$ –	$ (32,700)	$ (526)	$ (1,494)
Options on interest rate exchange agreements	1,084,172	(82,198)	20,371	(17,547)
Interest rate caps and floors	2,750,000	(1,950,000)	5,287	11,638
Total fixed income instruments	3,834,172	(2,064,898)	25,132	(7,403)
Currency instruments				
Currency forwards	52,496	(53,829)	(1,333)	(1,007)
Total currency instruments	52,496	(53,829)	(1,333)	(1,007)
Commodity instruments				
Commodity futures	1,364	–	269	(3,424)
Total commodity futures	1,364	–	269	(3,424)
Credit instruments	200,607	(1,553,312)	12,969	35,390
2010 Total	**$ 4,088,639**	**$ (3,672,039)**	**$ 37,037**	**$ 23,556**

**The fair value of all derivative financial instruments is reflected in investments at fair value in the Statements of Financial Position.*
***Net gain (loss) from the derivative financial instruments is located in the non-operating section as net gain on investments and other assets in the Statements of Activities.*

C. Derivative Financial Instruments (continued)

Table 9 provides further details related to MIT's credit instruments. The act of entering into a credit default swap contract is often referred to as "buying protection" or "selling protection" on an underlying reference obligation. The buyer is obligated to make premium payments to the seller over the term of the contract in return for a contingent payment upon the occurrence of a credit event with respect to the underlying obligation. The seller bears the obligation to "protect" the buyer in the event of default of the underlying issuer. Upon this event, the cash payment which the buyer receives is equal to the clearing price established by an auction of credit default swap claims, which is designed to approximate the recovery value of an unsecured claim on the issuer in default. The swap will last for a predetermined amount of time, typically five years. Upon termination of the swap, the buyer is no longer obligated to make any premium payments and there is no other exchange of capital.

Financial instruments with off-balance sheet risk involve counterparty credit exposure. 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 U.S. 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. MIT enters into arrangements only with counterparties believed to be creditworthy.

The following table summarizes the notional amounts and fair value of the purchased and written credit derivatives, classified by the expiration terms and the external credit ratings of the reference obligations at June 30, 2011 and 2010.

Table 9. Credit Derivatives

	Purchased protection				Written protection notional amount			
	Purchased notional	Purchased	Years to maturity		Written notional	Offsetting purchased	Net written credit	Net written credit protection
(in thousands of dollars)	amounts	fair value*	< 5 years	5-10 years	amounts	credit protection**	protection	fair value
Fiscal year 2011								
Credit rating on underlying or index								
A- to AAA	$ 861,248	$ (7,213)	$ 270,653	$ 590,595	$732,533	$ (732,533)	$ –	$ 30,348
BBB- to BBB+	917,741	(7,363)	187,098	730,643	–	–	–	–
Non-investment grade	25,000	914	–	25,000	–	–	–	–
Non-rated	20,000	(180)	–	20,000	–	–	–	–
ABX - AA index	60,515	34,367	–	60,515	–	–	–	–
2011 Total	**$ 1,884,504**	**$ 20,525**	**$ 457,751**	**$1,426,753**	**$ 732,533**	**$ (732,533)**	**$ –**	**$ 30,348**
Fiscal year 2010								
Credit rating on underlying or index								
A- to AAA	$ 547,155	$ (3,897)	$ 36,000	$ 511,155	$ 200,607	$ (200,607)	$ –	$ 6,651
BBB- to BBB+	709,450	(6,819)	87,450	622,000	–	–	–	–
Non-investment grade	47,000	1,296	–	47,000	–	–	–	–
Non-rated	20,000	(292)	–	20,000	–	–	–	–
ABX - AA index	29,100	16,030	–	29,100	–	–	–	–
2010 Total	**$ 1,352,705**	**$ 6,318**	**$ 123,450**	**$1,229,255**	**$ 200,607**	**$ (200,607)**	**$ –**	**$ 6,651**

* *The fair value of all credit derivative instruments is reflected in investments, at fair value in the Statements of Financial Position.*
***Net gain (loss) of the credit derivative instruments is located in the non-operating section as net gain on investments and other assets in the Statements of Activities.*

D. Pledges Receivable

Table 10 below shows the time periods in which pledges receivable at June 30, 2011 and 2010 are expected to be realized.

Table 10. Pledges Receivable

(in thousands of dollars)	2011	2010
In one year or less	$ 109,181	$ 99,057
Between one year and five years	187,608	193,666
More than five years	173,776	165,997
Less: allowance for unfulfilled pledges	(47,600)	(46,410)
Pledges receivable, net	**$ 422,965**	**$ 412,310**

A review of pledges is periodically made with regard to collectability. As a result, the allowance for pledges that may not be fulfilled is adjusted, and some pledges have been canceled and are no longer recorded in the financial statements. In addition, pledges are discounted in the amount of $55.0 million and $59.0 million in 2011 and 2010, respectively. MIT has gross conditional pledges, not recorded, for the promotion of education and research in the amount of $26.9 million and $44.1 million as of June 30, 2011 and 2010, respectively.

Pledges receivable are classified as Level 3 under the valuation hierarchy described in Note B.

Table 11 below is a rollforward of the pledges receivable for 2011 and 2010.

Table 11. Rollforward of Pledges Receivable

(in thousands of dollars)	2011	2010
Balance at beginning of year	$ 412,310	$ 464,736
New pledges	107,830	61,630
Pledge payments received	(99,922)	(139,549)
Decrease in pledge discount	3,937	30,494
(Increase) decrease in reserve for unfulfilled pledges	(1,190)	5,470
Transfer to The Broad Institute	-	(10,471)
Balance at end of year	**$ 422,965**	**$ 412,310**

E. Student Notes Receivable

Table 12 below details the components of student notes receivable at June 30, 2011 and 2010.

Table 12. Student Notes Receivable

(in thousands of dollars)	2011	2010
Institute-funded student notes receivable	$ 15,191	$ 16,570
Perkins student notes receivable	37,566	35,926
Total student notes receivable	**52,757**	**52,496**
Less: allowance for doubtful accounts	(3,000)	(3,000)
Student notes receivable, net	**$ 49,757**	**$ 49,496**

E. Student Notes Receivable (continued)

Perkins student notes receivable are funded by the U.S. Government and by MIT to the extent required by the Perkins National Direct Student Loan Program. Funds advanced by the U.S. Government for this program, $33.8 million and $33.6 million at June 30, 2011 and 2010, respectively, are ultimately refundable to the U.S. Government and are classified as liabilities. Due to the nature and terms of the student loans, which are subject to significant restrictions, it is not feasible to determine the fair value of such loans.

Allowance for Credit Losses

Management regularly assesses the adequacy of the allowance for credit losses by performing ongoing evaluations of the student loan portfolio, including such factors as the differing economic risks associated with each loan category, the financial condition of specific borrowers, the economic environment in which the borrowers operate, the level of delinquent loans, the value of any collateral and, where applicable, the existence of any guarantees or indemnifications. MIT's Perkins receivable represents the amounts due from current and former students under the Federal Perkins Loan Program. Loans disbursed under the Federal Perkins Loan program are able to be assigned to the U.S. Government in certain non-repayment situations. In these situations the Federal portion of the loan balance is guaranteed.

Factors also considered by management when performing its assessment, in addition to general economic conditions and the other factors described above, included, but were not limited to, a detailed review of the aging of the student loan receivable detail and a review of the default rate by loan category in comparison to prior years. The level of the allowance is adjusted based on the results of management's analysis.

Loans less than 120 days delinquent are deemed to have a minimal delay in payment and are generally not written off but are reserved in accordance with the terms discussed above. Loans more than 120 days delinquent are subject to standard collection practices including litigation. Only loans that are deemed uncollectible are written off and this only occurs after several years of unsuccessful collection, including placement at more than one external collection agency.

Considering the other factors already discussed herein, management considers the allowance for credit losses at June 30, 2011 and 2010 to be prudent and reasonable. Furthermore, MIT's allowance is general in nature and is available to absorb losses from any loan category. Management believes that the allowance for credit losses at June 30, 2011 is adequate to absorb credit losses inherent in the portfolio as of that date.

Changes in the allowance for credit losses for the year ended June 30, 2011 were as shown in the following table.

Table 13. Rollforward of Allowance for Credit Losses

(in thousands of dollars)	Student notes receivables
Balance at beginning of year	$ 3,000
Provision for credit losses	171
Net charge-offs	(171)
Balance at end of year	**$ 3,000**

F. Accounts Payable, Accruals and Other Liabilities

MIT's accounts payable, accruals and other liabilities at June 30, 2011 and 2010 are shown in Table 14 below.

Table 14. Accounts Payable, Accruals and Other Liabilities

(in thousands of dollars)	2011	2010
Accounts payable and accruals	$ 310,476	$ 256,213
Accrued vacation	55,685	52,885
Total	**$ 366,161**	**$ 309,098**

G. Borrowings

Table 15. Borrowings

(in thousands of dollars / due dates are calendar based)	2011	2010
EDUCATIONAL PLANT		
Massachusetts Health and Educational Facilities Authority (MHEFA)		
Series I, 4.75%–5.20%, due 2028, par value $59,200	$ 59,613	$ 59,638
Series J-1, variable rate, due 2031	125,000	125,000
Series J-2, variable rate, due 2031	125,000	125,000
Series K, 5.25%–5.50%, due 2012–2032, par value $230,000	242,242	243,041
Series L, 3.0%–5.25%, due 2004–2033, par value $170,160	182,072	185,394
Series M, 5.25%, due 2014–2030, par value $131,110	143,897	144,968
Series N, 3.5%–5.0%, due 2014–2038, par value $325,195	331,594	332,815
Series O, 4.0%–6.0%, due 2016–2036, par value $266,460	272,218	273,368
Total MHEFA	**1,481,636**	**1,489,224**
Medium Term Notes Series A, 7.125%, due 2026	17,355	17,351
Medium Term Notes Series A, 7.25%, due 2096	45,443	45,441
Notes payable to bank, variable rate, due 2014	83,033	83,033
Taxable Bonds, Series B, 5.60%, due 2111, par value $750,000 [1]	746,881	–
Total educational plant	**2,374,348**	**1,635,049**
OTHER		
Notes payable to bank, variable rate, due 2014	93,477	93,477
Total borrowings	**$ 2,467,825**	**$ 1,728,526**

[1] *The proceeds of Taxable Bonds, Series B were held as liquid investments as of June 30, 2011 and have not yet been invested in physical assets.*

Fair value of the outstanding debt is approximately 5.0% and 7.0% greater than the carrying value in 2011 and 2010, respectively. Carrying value is based on estimates using current interest rates available for similarly rated debt of the same remaining maturities.

G. Borrowings (continued)

The aggregate amounts of debt payments and sinking fund requirements for each of the next five fiscal years are shown in Table 16 below.

Table 16. Debt Obligations
(in thousands of dollars)

2012	$ 2,490
2013	26,500
2014	202,509
2015	59,110
2016	9,585

MIT maintains a line of credit with a major financial institution for an aggregate commitment of $500.0 million. As of June 30, 2011, $323.5 million was available under this line of credit. The line of credit expires on March 28, 2014.

Cash paid for interest on long-term debt in 2011 and 2010 was $78.7 million and $79.4 million, respectively.

Variable interest rates at June 30, 2011 are shown in Table 17 below.

Table 17. Variable Interest Rates

(in thousands of dollars)	Amount	Rate
MHEFA Series J-1	$ 125,000	0.04%
MHEFA Series J-2	125,000	0.04%
Notes payable to bank	176,510	1.21%

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 percent of par on the tender date.

During 2011, MIT issued $750.0 million in taxable bonds at a rate of 5.6% for a period of 100 years. This will be used to finance a comprehensive strategy for the next phase of MIT's physical plant development.

H. Commitments and Contingencies

Federal Government Funding

MIT receives funding or reimbursement from Federal agencies for sponsored research under Government grants and contracts. These grants and contracts provide for reimbursement of indirect costs based on rates negotiated with the Office of Naval Research (ONR), MIT's cognizant Federal agency. MIT's indirect cost reimbursements have been based on fixed rates with carry forward of under or over-recoveries. At June 30, 2011 and 2010, MIT recorded a net over-recovery of $48.1 million and $12.3 million, respectively.

The DCAA is responsible for auditing indirect charges to grants and contracts in support of ONR's negotiating responsibility. MIT has final audited rates through 2009. MIT's 2011 research revenues of $1,447.2 million include reimbursement of indirect costs of $196.8 million, which includes the adjustment for the variance between the indirect cost income determined by the fixed rates and actual costs for 2011. In 2010, research revenues were $1,369.6 million, which included reimbursement of indirect costs of $197.2 million.

Leases

At June 30, 2011, there were no capital lease obligations. MIT is committed under certain operating (rental) leases. Rent expense incurred under operating lease obligations was $33.3 million and $33.1 million in 2011 and 2010, respectively. Future minimum payments under operating leases are shown in Table 18 below.

Table 18. Lease Obligations
(in thousands of dollars)

2012	$ 31,815
2013	30,599
2014	23,458
2015	10,304
2016	8,335

Investments

As of June 30, 2011, $9.3 million of investments were pledged as collateral to various supplier and government agencies.

H. Commitments and Contingencies (continued)

Future Construction

MIT has contracted for educational plant in the amount of $65.4 million at June 30, 2011. It is expected that the resources to satisfy these commitments will be provided from unexpended plant funds, anticipated gifts, and unrestricted funds. MIT will be committing additional resources to planned major construction projects and improvements to the current infrastructure over the next several years.

Related Entities

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.

General

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.

I. Functional Expense Classification

MIT's expenditures on a functional basis are shown in Table 19 below.

Table 19. Expenditures by Functional Classification

(in thousands of dollars)	2011	2010
General and administrative	$ 523,676	$ 461,186
Instruction and unsponsored research	659,839	613,345
Sponsored research	1,265,776	1,192,041
Auxiliary enterprises	110,631	104,489
Operation of Alumni Association	11,225	11,505
Total operating expense	**$ 2,571,147**	**$2,382,566**

J. Retirement Benefits

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

MIT also provides retiree welfare benefits (certain health care and life insurance benefits) for retired employees. Substantially all of MIT's employees may become eligible for those benefits if they reach a qualifying retirement age while working for MIT. Retiree health plans are 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. Retiree life insurance plans are non-contributory and cover the retiree only. MIT maintains a trust to pay for retiree welfare benefits.

MIT contributes to the defined benefit plan amounts that are actuarially determined to provide the retirement plan with sufficient assets to meet future benefit requirements. There were no contributions to the defined benefit plan in 2011 or 2010.

For purposes of calculating net periodic pension cost for the defined benefit plan, plan amendments are amortized on a straight-line basis over the average future service to expected retirement of active participants at the date of the 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 are amortized over the average future service of active participants. The annual amortization shall not be less than the total amount of unrecognized gains and losses up to $1 million.

J. Retirement Benefits (continued)

The amount contributed and expenses recognized during 2011 and 2010 related to the defined contribution plan were $40.8 million and $39.2 million, respectively.

For purposes of calculating net periodic postretirement welfare benefit cost, a portion of the current obligation, related to the transition to the accounting standard *Employers' Accounting for Postretirement Benefits Other than Pensions*, is being amortized on a straight-line basis over 20 years from the date of adoption of that statement in 1994. Plan amendments 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 plan's obligation or the market-related value of assets are amortized over the average future service of active participants. The annual amortization shall not be less than the total amount of unrecognized gains and losses up to $1 million.

Components of Net Periodic Benefit (Income) Cost

Table 20 summarizes the components of net periodic benefit (income) cost recognized in operating activity and other amounts recognized in non-operating activity in unrestricted net assets in the Statements of Activities for the years ended June 30, 2011 and 2010.

Table 20. Components of Net Periodic Benefit (Income) Cost

	Defined benefit plan		Postretirement welfare benefit plan	
(in thousands of dollars)	2011	2010	2011	2010
Components of net periodic benefit (income) cost				
Service cost	$ 59,892	$ 54,179	$ 19,957	$ 16,581
Interest cost	134,756	131,994	27,380	25,901
Expected return on plan assets	(221,135)	(222,291)	(20,142)	(20,422)
Amortization of transition amount	–	–	4,776	4,776
Amortization of net actuarial (gain) loss	(2,323)	(29,500)	10,266	4,409
Amortization of prior service cost	2,180	2,180	3,556	3,556
Net periodic benefit (income) cost recognized in operating activity	**(26,630)**	**(63,438)**	**45,793**	**34,801**
Other amounts recognized in non-operating activity in unrestricted net assets				
Current year actuarial (gain) loss	$ (68,388)	$ 183,119	$ (18,565)	$ 40,438
Amortization of actuarial gain (loss)	2,323	29,500	(10,266)	(4,409)
Amortization of prior service cost	(2,180)	(2,180)	(3,556)	(3,556)
Amortization of transition obligation	–	–	(4,776)	(4,776)
Total other amounts recognized in non-operating activity	**(68,245)**	**210,439**	**(37,163)**	**27,697**
Total recognized in Statements of Activities	**$ (94,875)**	**$ 147,001**	**$ 8,630**	**$ 62,498**

The estimated net actuarial gain and prior service cost for the defined benefit plan that will be amortized from unrestricted net assets into net periodic benefit income during the next fiscal year are $1.0 million and $2.0 million, respectively. The estimated net actuarial loss and transition obligation for the postretirement welfare benefit plan that will be amortized from unrestricted net assets into net periodic benefit cost during the next fiscal year are $11.4 million and $4.8 million, respectively.

J. Retirement Benefits (continued)

Cumulative amounts recognized as non-operating changes in unrestricted net assets are summarized in the following table for the years ended June 30, 2011 and 2010.

Table 21. Cumulative Amounts Recognized in Unrestricted Net Assets

(in thousands of dollars)	Defined benefit plan 2011	Defined benefit plan 2010	Postretirement welfare benefit plan 2011	Postretirement welfare benefit plan 2010
Amounts recognized in unrestricted net assets consist of:				
Net actuarial loss	$ 126,184	$ 192,248	$ 156,141	$ 184,972
Prior service cost	6,821	9,002	–	3,556
Transition liability	–	–	9,551	14,327
Total cumulative amounts recognized in unrestricted net assets	**$ 133,005**	**$ 201,250**	**$ 165,692**	**$ 202,855**

Benefit Obligations and Fair Value of Assets

Table 22 summarizes the benefit obligations, plan assets, and amounts recognized in the Statements of Financial Position for MIT's retirement benefit plans. MIT uses a June 30 measurement date for its defined benefit pension and postretirement welfare benefit plans.

Table 22. Projected Benefit Obligations and Fair Value of Assets

(in thousands of dollars)	Defined benefit plan 2011	Defined benefit plan 2010	Postretirement welfare benefit plan 2011	Postretirement welfare benefit plan 2010
Change in projected benefit obligations				
Projected benefit obligations at beginning of year	$ 2,293,877	$ 2,118,977	$ 472,170	$ 409,738
Service cost	59,892	54,179	19,957	16,581
Interest cost	134,756	131,994	27,380	25,901
Retiree contributions	–	–	3,496	3,200
Net benefit payments, transfers and other expenses	(115,523)	(117,535)	(23,574)	(23,474)
Assumption changes and actuarial net loss	85,590	106,262	10,409	40,224
Projected benefit obligations at end of year	**2,458,592**	**2,293,877**	**509,838**	**472,170**
Change in plan assets				
Fair value of plan assets at beginning of year	2,312,718	2,284,819	234,535	234,601
Actual return on plan assets	375,112	145,434	49,116	20,209
Employer contributions	–	–	50,399	2,038
Retiree contributions	–	–	3,496	3,200
Net benefit payments, transfers and other expenses	(115,523)	(117,535)	(25,917)	(25,513)
Fair value of plan assets at end of year	**2,572,307**	**2,312,718**	**311,629**	**234,535**
Funded (unfunded) status at end of year	**$ 113,715**	**$ 18,841**	**$ (198,209)**	**$ (237,635)**
Amounts recognized in the Statements of Financial Position consist of:				
Benefit assets	$ 113,715	$ 18,841	$ –	$ –
Benefit liability	–	–	(198,209)	(237,635)
Total	**$ 113,715**	**$ 18,841**	**$ (198,209)**	**$ (237,635)**

J. Retirement Benefits (continued)

The accumulated benefit obligation for MIT's defined benefit pension plan was $2,305.8 million and $2,157.9 million at June 30, 2011 and 2010, respectively.

MIT has recognized the effect of the expected Medicare subsidy by reducing its accumulated postretirement benefit obligation by $64.6 million and $62.6 million as of June 30, 2011 and 2010, respectively. This initial reduction was recognized as an actuarial gain. Additionally, the service and interest cost components of postretirement benefits cost were reduced in 2011 and future periods.

Assumptions and Health Care 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 23. Assumptions

	Defined benefit plan		Postretirement welfare benefit plan	
	2011	2010	2011	2010
Assumptions used to determine benefit obligation as of June 30:				
Discount rate	5.65%	5.84%	5.56%	5.71%
Rate of compensation increase [1]	4.00%	4.00%		
Assumptions used to determine net periodic benefit (income) cost for year ended June 30:				
Discount rate	5.84%	6.25%	5.71%	6.25%
Expected long-term return on plan assets	8.00%	8.00%	7.00%	7.00%
Rate of compensation increase [1]	4.00%	4.00%		
Assumed health care cost trend rates:				
Health care cost trend rate assumed for next year			7.50%	7.50%
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)			5.00%	5.00%
Year that the rate reaches the ultimate trend rate			2018	2015

[1] *The average rate of salary increase is assumed to be 3% for 2012, and 4% thereafter.*

As an indicator of sensitivity, a one percentage point change in the assumed health care cost trend rate would effect 2011 as shown in Table 24 below.

Table 24. Health Care Cost Trend Rate Sensitivity

(in thousands of dollars)	1% point increase	1% point decrease
Effect on 2011 postretirement service and interest cost	$ 7,970	$ (6,439)
Effect on postretirement benefit obligation as of June 30, 2011	$ 64,215	$ (52,361)

Plan Investments

The investment objectives for the assets of the plans are to minimize expected funding contributions and to meet or exceed the rate 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.

J. Retirement Benefits (continued)

Table 25 presents investment at fair value of MIT's defined benefit plan and postretirement welfare benefit plan, which are included in plan net assets as of June 30, 2011 and 2010, grouped by the valuation hierarchy detailed in Note B. There were no significant transfers in and out of Level 1 and Level 2 fair value measurements in 2011.

Table 25. Plan Investments

(in thousands of dollars)	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant un-observable inputs (Level 3)	Total fair value
Defined Benefit Plan				
Fiscal year 2011				
Cash and cash equivalents	$ 34,644	$ –	$ –	$ 34,644
Fixed income	188,705	75,077	–	263,782
Equities	220,211	192,537	893,351	1,306,099
Marketable alternatives	–	228,546	444,384	672,930
Real estate	–	–	282,404	282,404
Interest rate futures	(17)	–	–	(17)
Total plan investment	**$ 443,543**	**$ 496,160**	**$ 1,620,139**	**$ 2,559,842**
Fiscal year 2010				
Cash and cash equivalents	$ 17,594	$ –	$ –	$ 17,594
Fixed income	196,123	65,130	–	261,253
Equities	325,635	112,441	727,149	1,165,225
Marketable alternatives	–	42,150	597,032	639,182
Real estate	–	–	225,241	225,241
Interest rate futures	(196)	–	–	(196)
	$ 539,156	**$ 219,721**	**$ 1,549,422**	**$ 2,308,299**
Less: Amounts held in 401(h) accounts				(4,371)
Total plan investment				**$ 2,303,928**
Postretirement Welfare Benefit Plan				
Fiscal year 2011				
Cash and cash equivalents	$ 4,382	$ –	$ –	$ 4,382
Fixed income	–	67,730	–	67,730
Equities	52,957	76,603	43,391	172,951
Marketable alternatives	–	34,183	22,134	56,317
Real estate	–	–	10,344	10,344
Total plan investment	**$ 57,339**	**$ 178,516**	**$ 75,869**	**$ 311,724**
Fiscal year 2010				
Cash and cash equivalents	$ 4,211	$ –	$ –	$ 4,211
Fixed income	–	52,857	–	52,857
Equities	21,779	73,176	29,527	124,482
Marketable alternatives	–	5,488	34,116	39,604
Real estate	–	–	7,140	7,140
Total plan investment	**$ 25,990**	**$ 131,521**	**$ 70,783**	**$ 228,294**

J. Retirement Benefits (continued)

Table 26 is a rollforward of the investments classified by MIT's defined benefit plan and postretirement welfare benefit plan within Level 3 of the fair value hierarchy defined in Note B as at June 30, 2011 and 2010.

Table 26. Rollforward of Level 3 Plan Investment

(in thousands of dollars)	Equities	Marketable alternatives	Real estate	Total investments
Defined Benefit Plan				
Fair value, July 1, 2010	$ 727,149	$ 597,032	$ 225,241	$ 1,549,422
Realized losses	(3,041)	–	–	(3,041)
Unrealized gains	92,678	54,558	19,074	166,310
Net purchases, sales, settlements	97,421	(30,696)	38,089	104,814
Transfers of assets between levels	(20,856)	(176,510)	–	(197,366)
Fair value, June 30, 2011	**$ 893,351**	**$ 444,384**	**$ 282,404**	**$ 1,620,139**
Fair value, July 1, 2009	$ 718,968	$ 625,515	$ 239,666	$ 1,584,149
Realized gains (losses)	(53)	755	–	702
Unrealized gains (losses)	21,745	34,408	(38,337)	17,816
Net purchases, sales, settlements	(4,432)	(21,496)	23,912	(2,016)
Transfers of assets between levels	(9,079)	(42,150)	–	(51,229)
Fair value, June 30, 2010	**$ 727,149**	**$ 597,032**	**$ 225,241**	**$ 1,549,422**
Postretirement Welfare Benefit Plan				
Fair value, July 1, 2010	$ 29,527	$ 34,116	$ 7,140	$ 70,783
Realized losses	(3)	–	–	(3)
Unrealized gains	5,101	3,274	1,717	10,092
Net purchases, sales, settlements	16,910	(1,241)	1,487	17,156
Transfers of assets between levels	(8,145)	(14,014)	–	(22,159)
Fair value, June 30, 2011	**$ 43,390**	**$ 22,135**	**$ 10,344**	**$ 75,869**
Fair value, July 1, 2009	$ 23,511	$ 32,919	$ 6,519	$ 62,949
Realized gains (losses)	(5)	105	–	100
Unrealized gains (losses)	2,948	(1,365)	(108)	1,475
Net purchases, sales, settlements	4,299	7,944	729	12,972
Transfers of assets between levels	(1,226)	(5,487)	–	(6,713)
Fair value, June 30, 2010	**$ 29,527**	**$ 34,116**	**$ 7,140**	**$ 70,783**

J. Retirement Benefits (continued)

The unfunded commitments which MIT's defined benefit plan and postretirement welfare benefit plan have made to various investments as of June 30, 2011 and 2010 are listed in Table 27 below.

Table 27. Unfunded Commitments

	Defined benefit plan		Postretirement welfare benefit plan	
(in thousands of dollars)	2011	2010	2011	2010
Equities	$ 254,057	$ 303,601	$ 20,253	$ 26,662
Marketable alternatives	33,009	38,084	2,844	3,839
Real estate	191,106	183,496	16,461	11,280
Total	**$ 478,172**	**$ 525,181**	**$ 39,558**	**$ 41,781**

Target allocations and weighted-average asset allocations of the investment portfolio for the MIT defined benefit plan and postretirement welfare benefit plan at June 30, 2011 and 2010 are shown in Table 28.

Table 28. Plan Investment Allocation

	Defined benefit plan Plan assets as of June 30			Postretirement welfare benefit plan Plan assets as of June 30		
	Target Allocation	2011	2010	Target Allocation	2011	2010
Cash & cash equivalents	–	2%	1%	–	2%	2%
Fixed income	8%	10%	11%	20%	23%	22%
Equities	48%	51%	50%	50%	55%	55%
Marketable alternatives	33%	26%	28%	25%	17%	18%
Real estate	11%	11%	10%	5%	3%	3%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

J. Retirement Benefits (continued)

The following table summarizes the notional exposure and net ending fair value of derivative financial instruments held by the MIT defined benefit plan at June 30, 2011 and 2010. Refer to Note C for detailed discussion regarding derivative financial instruments. The postretirement welfare benefit plan did not have any outstanding derivative financial instruments at June 30, 2011 and 2010.

Table 29. Derivative Financial Instrument for Defined Benefit Plan

(in thousands of dollars)	Notional exposure Long	Notional exposure Short	Net ending fair value amount	Net loss
Fiscal year 2011				
Fixed income instruments				
Fixed income futures	$ 1,000	$ (6,600)	$ (17)	$ (179)
Total fixed income instruments	1,000	(6,600)	(17)	(179)
Currency and other instruments				
Currency forwards and other instruments	–	138	–	–
Total currency instruments	–	138	–	–
2011 Total	**$ 1,000**	**$ (6,462)**	**$ (17)**	**$ (179)**
Fiscal year 2010				
Fixed income instruments				
Fixed income futures	$ –	$ (11,900)	$ (196)	$ (649)
2010 Total	**$ –**	**$ (11,900)**	**$ (196)**	**$ (649)**

Contributions

MIT does not expect to contribute to its defined benefit pension plan, and expects to contribute approximately $34.9 million to its postretirement welfare benefit plan in 2012. These contributions have been estimated based on the same assumptions used to measure MIT's benefit obligations at June 30, 2011. MIT also contributed $50.4 million and $2.0 million to the postretirement welfare benefit plan in 2011 and 2010, respectively.

Expected Future Benefit Payments

Table 30 reflects total expected benefit payments for the defined benefit and postretirement welfare benefit plans, as well as expected receipt of the federal subsidy. These payments have been estimated based on the same assumptions used to measure MIT's benefit obligations at June 30, 2011.

Table 30. Expected Future Benefit Payments

(in thousands of dollars)	Pension benefits	Other benefits[1]	Federal subsidy[2]
2012	$ 124,449	$ 30,644	$ 2,421
2013	135,456	33,260	2,681
2014	139,877	35,680	2,954
2015	144,080	37,955	3,216
2016	148,273	40,200	3,496
2017–2021	803,934	232,511	21,544

[1] *Other benefits reflect the total net benefits expected to be paid from the plans (i.e., gross benefit reimbursements offset by retiree contributions).*

[2] *Federal subsidy reflects the amount MIT is expected to receive from the government and reflects MIT's expected drugs claims experience.*

K. Components of Net Assets and Endowment

Table 31 below presents the three categories of net assets by purpose as of June 30, 2011. The amounts listed in the unrestricted column under endowment funds principal 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 temporarily restricted net assets in other invested funds is pledges, the majority of which will be reclassified to unrestricted net assets when cash is received.

Table 31. Fund Category

(in thousands of dollars)	2011 Unrestricted	2011 Temporarily restricted	2011 Permanently restricted	2011 Total	2010 Total
Endowment funds principal					
General purpose	$ 654,259	$ 787,370	$ 471,651	$ 1,913,280	$ 1,483,930
Departments and research	420,093	697,712	415,123	1,532,928	1,349,620
Library	9,079	15,908	7,858	32,845	29,349
Professorships	405,253	1,856,041	608,366	2,869,660	2,523,743
Graduate general	55,946	93,359	81,758	231,063	202,914
Graduate departments	75,437	220,755	187,255	483,447	414,230
Undergraduate	165,028	775,685	320,896	1,261,609	1,115,077
Prizes	6,403	19,582	17,123	43,108	38,465
Miscellaneous	814,555	132,339	114,252	1,061,146	906,434
Investment income held for distribution	283,542	–	–	283,542	253,559
Endowment funds before pledges	2,889,595	4,598,751	2,224,282	9,712,628	8,317,321
Pledges	–	–	140,946	140,946	146,137
Total endowment funds	**2,889,595**	**4,598,751**	**2,365,228**	**9,853,574**	**8,463,458**
Other invested funds					
Student loan funds	20,289	–	16,343	36,632	37,108
Building funds	47,979	48,257	–	96,236	188,769
Designated purposes:					
– Departments and research	280,162	–	–	280,162	265,207
– Other purposes	89,883	–	–	89,883	83,620
Reserve funds	123,903	–	–	123,903	95,168
Real estate gifts held for sale	6,261	–	–	6,261	6,275
Life income funds	6,960	46,903	76,320	130,183	108,287
Pledges	–	282,019	–	282,019	264,945
Other funds available for current expenses	579,450	68,589	–	648,039	402,187
Funds expended for educational plant	558,798	–	–	558,798	409,281
Total other funds	1,713,685	445,768	92,663	2,252,116	1,860,847
Total net assets at fair value	**$ 4,603,280**	**$ 5,044,519**	**$ 2,457,891**	**$ 12,105,690**	**$10,324,305**

K. Components of Net Assets and Endowment (continued)

MIT's endowment consists of approximately 3,300 individual funds established for a variety of purposes and includes both donor-restricted endowment funds and funds designated by the Executive Committee of the MIT Corporation (Executive Committee) to function as endowment. As required by US GAAP, net assets associated with endowment funds, including funds designated by the Executive Committee to function as endowments, are classified and reported based on the existence or absence of donor-imposed restrictions.

The Executive Committee of MIT has interpreted the Massachusetts-enacted version of 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.

As a result of this interpretation, MIT has not changed the way permanently restricted net assets are classified. See Note A for further information on net asset classification. The remaining portion of the donor-restricted endowment fund that is not classified in permanently restricted net assets is classified as temporarily restricted net assets until those amounts are appropriated for expenditure in a manner consistent with the standard of prudence prescribed by UPMIFA. 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

Table 32. Endowment Net Asset Composition by Type of Fund

(in thousands of dollars)	Unrestricted	Temporarily restricted	Permanently restricted	Total
Fiscal year 2011				
Donor-restricted endowment funds	$ (7,071)	$ 4,598,751	$ 2,365,228	$ 6,956,908
Board-designated endowment funds	2,896,666	–	–	2,896,666
Total endowment funds	**$ 2,889,595**	**$ 4,598,751**	**$ 2,365,228**	**$ 9,853,574**
Fiscal year 2010				
Donor-restricted endowment funds	$ (29,106)	$ 3,945,500	$ 2,019,530	$ 5,935,924
Board-designated endowment funds	2,527,534	–	–	2,527,534
Total endowment funds	**$ 2,498,428**	**$ 3,945,500**	**$ 2,019,530**	**$ 8,463,458**

K. Components of Net Assets and Endowment (continued)

Table 33. Changes in Endowment Net Assets

(in thousands of dollars)	Unrestricted	Temporarily restricted	Permanently restricted	Total
Fiscal year 2011				
Endowment net assets, June 30, 2010	$ 2,498,428	$ 3,945,500	$ 2,019,530	$ 8,463,458
Investment return:				
Investment income	24,744	47,678	17,057	89,479
Net appreciation (realized and unrealized)	423,568	906,844	11,961	1,342,373
Total investment return	448,312	954,522	29,018	1,431,852
Contributions	–	–	313,644	313,644
Appropriation of endowment assets for expenditure	(134,428)	(300,831)	(9,577)	(444,836)
Other changes:				
Underwater gain adjustment	22,035	(22,035)	–	–
Net asset reclassifications and transfers to create board-designated endowment funds	55,248	21,595	12,613	89,456
Endowment net assets, June 30, 2011	**$ 2,889,595**	**$ 4,598,751**	**$ 2,365,228**	**$ 9,853,574**
Fiscal year 2010				
Endowment net assets, June 30, 2009	$ 2,328,856	$ 3,807,297	$ 1,913,952	$ 8,050,105
Investment return:				
Investment income	20,403	42,293	8,406	71,102
Net appreciation (realized and unrealized)	276,468	414,261	5,957	696,686
Total investment return	296,871	456,554	14,363	767,788
Contributions	–	–	58,815	58,815
Appropriation of endowment assets for expenditure	(158,022)	(364,531)	(3,964)	(526,517)
Other changes:				
Underwater loss adjustment and funds held for reinvestment	(4,794)	4,794	630	630
Net asset reclassifications and transfers to create board-designated endowment funds	35,517	41,386	35,734	112,637
Endowment net assets, June 30, 2010	**$ 2,498,428**	**$ 3,945,500**	**$ 2,019,530**	**$ 8,463,458**

Underwater Endowment Funds

From time to time, the fair value of assets associated with individual donor-restricted endowment funds may fall below the value of the initial and subsequent donor gift amounts (underwater). When underwater endowment funds exist, they are classified as a reduction of unrestricted net assets. Total underwater endowment funds reported in unrestricted net assets were $7.1 million and $29.1 million as of June 30, 2011 and 2010, respectively. The underwater status of these funds resulted from unfavorable market fluctuations.

K. Components of Net Assets and Endowment (continued)

Investment and Spending Policies

MIT maintains its investments primarily in two investment pools: Pool A, principally for endowment and funds functioning as endowment, and Pool C, principally for investment of current funds of MIT's schools and departments and MIT's operating funds. Pool A operates as a mutual fund with units purchased and redeemed based on the previous month's unit market value of Pool A. The total market value of Pool A was $10,041.1 million at June 30, 2011 and $8,603.4 million at June 30, 2010. Pool A includes certain operating and life income funds totaling $754.5 million at June 30, 2011 and $454.7 million at June 30, 2010. Certain assets are also maintained in separately invested funds. Separately invested funds totaled $424.4 million as of June 30, 2011 and $168.6 million as of June 30, 2010.

MIT has adopted endowment investment and spending policies designed to provide a predictable stream of funding to programs supported by its endowment while maintaining the purchasing power of endowment assets. An additional investment goal is to maximize 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 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 $56.75 and $69.21 per Pool A unit as of June 30, 2011 and 2010, respectively. In 2011, the amount distributed for spending from Pool A and Pool C totaled $513.6 million, compared to $581.8 million distributed in the prior year. During 2011, distributions from separately invested funds were $10.5 million, compared to $4.2 million in 2010. The income earned in Pool C, or currently invested funds, was fully distributed. In addition to the aforementioned distributions, there was also a special distribution of $10.8 million from gains in Pool C in 2011. No such distribution was made in 2010.

L. The Broad Institute

On July 1, 2009, The Broad Institute, previously a unit of MIT, became a separately incorporated entity. The Broad Institute is a research center located adjacent to the MIT campus. Before July 1, 2009, MIT administered The Broad Institute as a collaboration among MIT, Harvard University and its affiliated hospitals, and The Whitehead Institute for Biomedical Research. Following the separation, The Broad Institute is a self-administered collaboration of MIT, Harvard University, and its affiliated hospitals.

At separation on July 1, 2009, MIT transferred assets to the separately incorporated The Broad Institute.

pwc

Report of Independent Auditors

To the Audit Committee of the
Massachusetts Institute of Technology

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of activities and cash flows present fairly, in all material respects, the financial position of the Massachusetts Institute of Technology (the "Institute") at June 30, 2011 and 2010, and the changes in their net assets and their cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of the Institute's management. Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

PricewaterhouseCoopers LLP

September 15, 2011

PricewaterhouseCoopers LLP, 125 High Street, Boston, MA 02110
T: (617) 530 5000, F: (617) 530 5001, www.pwc.com/us

Massachusetts Institute of Technology

Five-Year Trend Analysis – Financial Highlights

(in thousands of dollars)

	2011	2010	2009	2008	2007
Financial Position:					
Investments, at fair value	$12,199,451	$ 9,913,877	$ 9,517,348	$ 11,316,293	$ 11,068,922
Land, buildings, and equipment, at cost less accumulated depreciation	2,451,479	2,327,810	2,122,606	1,940,912	1,745,196
Borrowings	2,467,825	1,728,526	1,735,843	1,335,393	1,078,234
Total assets	16,050,373	13,412,506	12,949,552	15,458,982	14,946,369
Total liabilities	3,944,683	3,088,201	3,003,164	2,689,008	2,251,065
Unrestricted net assets	4,603,280	3,759,301	3,559,925	5,086,270	5,216,844
Temporarily restricted net assets	5,044,519	4,463,066	4,401,015	5,765,302	5,684,006
Permanently restricted net assets	2,457,891	2,101,938	1,985,448	1,918,402	1,794,454
Total net assets	12,105,690	10,324,305	9,946,388	12,769,974	12,695,304
Total endowment funds before pledges	9,712,628	8,317,321	7,880,321	9,947,636	9,943,111
Principal Sources of Revenue:					
Tuition and similar revenues	$ 493,777	$ 468,570	$ 431,772	$ 421,230	$ 394,652
Research revenues:					
Campus direct	456,416	431,611	497,493	448,065	407,650
Campus indirect	162,497	172,525	193,289	173,455	163,148
Lincoln Laboratory direct	770,672	719,883	642,101	587,076	573,696
Lincoln Laboratory indirect	34,111	24,449	27,667	32,611	32,234
SMART direct	23,300	20,912	14,026	3,857	–
SMART indirect	210	223	496	106	–
Gifts, bequests and pledges	522,409	246,580	303,890	385,952	332,874
Net gain (loss) on investments and other assets	1,483,668	784,348	(1,854,380)	154,765	1,673,275
Investment income and distributions	505,503	566,110	586,576	422,457	331,242
Principal Purposes of Expenditures:					
Total operating expenditures	$ 2,571,147	$ 2,382,566	$ 2,461,286	$ 2,294,247	$ 2,201,696
General and administrative	523,676	461,186	497,043	486,444	482,527
Instruction and unsponsored research	659,839	613,345	680,848	641,241	608,423
Direct cost of sponsored research – current dollars	1,265,776	1,192,041	1,167,036	1,054,474	1,001,144
Direct cost of sponsored research – constant dollars (2007 = 100)	1,168,737	1,122,756	1,109,842	1,016,797	1,001,144

Massachusetts Institute of Technology

Five-Year Trend Analysis – Financial Highlights (continued)

(in thousands of dollars)

	2011	2010	2009	2008	2007
Research Revenues:[A]					
Campus:					
Federal government sponsored:					
Health and Human Services	$ 152,664	$ 144,561	$ 255,896	$ 226,307	$ 201,557
Department of Defense	107,753	106,890	97,528	87,370	90,571
Department of Energy	89,562	73,274	65,773	65,611	64,899
National Science Foundation	74,859	69,801	61,386	64,973	65,057
National Aeronautics and Space Administration	28,080	30,629	27,358	25,479	27,889
Other Federal	16,602	12,717	14,559	14,169	14,431
Total Federal	469,520	437,872	522,500	483,909	464,404
Non-Federally sponsored:					
State/local/foreign governments	32,969	33,339	27,145	18,549	13,055
Non-profits	44,436	50,639	60,538	47,695	32,200
Industry	100,763	93,330	99,219	82,194	79,725
Total non-Federal	178,168	177,308	186,902	148,438	124,980
Total Federal & non-Federal	647,688	615,180	709,402	632,347	589,384
F&A and other adjustments	(28,775)	(11,044)	(18,620)	(10,827)	(18,586)
Total campus	618,913	604,136	690,782	621,520	570,798
Lincoln Laboratory:					
Federal government sponsored	803,599	749,974	675,329	606,850	607,270
Non-Federally sponsored	2,511	3,068	2,989	3,602	4,602
F&A and other adjustments	(1,327)	(8,710)	(8,550)	9,235	(5,942)
Total Lincoln Laboratory	804,783	744,332	669,768	619,687	605,930
SMART:[B]					
Non-Federal sponsored	23,510	21,135	14,522	3,963	–
Total SMART	23,510	21,135	14,522	3,963	–
Total Research Revenues	**$ 1,447,206**	**$ 1,369,603**	**$ 1,375,072**	**$ 1,245,170**	**$ 1,176,728**

[A] *The amounts in this table reflect revenues from the original source of funds and The Broad Institute.*

[B] *The amounts represent research that has taken place in Singapore.*

Massachusetts Institute of Technology

Five-Year Trend Analysis – Financial Highlights (continued)

	2011	2010	2009	2008	2007
Students:					
Undergraduate					
Full-time	4,252	4,201	4,118	4,119	4,068
Part-time	47	31	35	53	59
Undergraduate Applications					
Applicants	16,632	15,663	13,396	12,445	11,374
Accepted	1,676	1,676	1,589	1,553	1,514
Acceptance rate	10%	11%	12%	12%	13%
Enrolled	1,067	1,072	1,048	1,067	1,002
Yield	64%	64%	66%	69%	66%
Freshmen ranking in the top 10% of their class	98%	95%	97%	97%	97%
Average SAT scores (math and verbal)	1,473	1,455	1,453	1,458	1,461
Graduate					
Full-time	6,108	6,022	5,991	5,837	5,924
Part-time	159	130	155	211	202
Graduate applications					
Applicants	22,139	19,336	17,323	16,208	15,968
Accepted	3,431	2,994	3,215	3,058	3,002
Acceptance rate	15%	15%	19%	19%	19%
Enrolled	2,141	1,939	2,000	1,823	1,877
Yield	62%	65%	62%	60%	63%
Tuition *(in dollars)*:					
Tuition and fees	$ 39,212	$ 37,782	$ 36,390	$ 34,986	$ 33,600
Average room and board	11,234	11,360	10,860	10,400	9,950
Student Financial Aid: *(in thousands of dollars)*					
Undergraduate tuition support	$ 92,060	$ 89,813	$ 78,534	$ 70,157	$ 65,529
Graduate tuition support	201,995	195,178	187,732	174,847	172,021
Fellowship stipends	30,435	28,104	27,509	25,647	25,020
Student loans	9,968	9,641	9,641	8,766	8,962
Student employment	85,335	84,304	82,287	78,892	77,732
Total financial assistance	**$ 419,793**	**$ 407,040**	**$ 385,703**	**$ 358,309**	**$ 349,264**
Faculty and staff *(including unpaid appointments)*:					
Faculty	1,017	1,025	1,008	1,007	997
Staff and fellows	12,662	12,577	13,393	12,852	12,454