Yale University

Financial Report 2016–2017

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Highlights

	Fiscal Years				
Five-Year Financial Overview ($ in millions)	**2017**	**2016**	**2015**	**2014**	**2013**
Net Operating Results - Management View	$ 115	$ 37	$ 17	$ 13	$ 16
Financial Position Highlights:					
Total assets	$ 39,194	$ 36,957	$ 36,972	$ 34,523	$ 31,253
Total liabilities	10,208	10,419	9,587	8,722	8,796
Total net assets	$ 28,986	$ 26,538	$ 27,385	$ 25,801	$ 22,457
Endowment:					
Net investments, at fair value	$ 27,217	$ 25,413	$ 25,543	$ 23,859	$ 20,709
Total return on investments	11.3%	3.4%	11.5%	20.2%	12.5%
Spending from endowment	4.8%	4.5%	4.5%	5.0%	5.3%
Facilities:					
Land, buildings and equipment, net of accumulated depreciation	$ 4,967	$ 4,779	$ 4,510	$ 4,413	$ 4,347
Disbursements for building projects	$ 395	$ 498	$ 302	$ 271	$ 277
Debt	$ 3,515	$ 3,534	$ 3,558	$ 3,320	$ 3,582
Statement of Activities Highlights					
Operating revenues	$ 3,648	$ 3,450	$ 3,382	$ 3,110	$ 2,937
Operating expenses	3,481	3,344	3,175	3,037	2,939
Increase (decrease) in net assets from operating activities	$ 167	$ 106	$ 207	$ 73	$ (2)
Five-Year Enrollment Statistics	**2017**	**2016**	**2015**	**2014**	**2013**
First-Year Enrollment Class of:	'20	'19	'18	'17	'16
First-Year applications	31,445	30,236	30,932	29,610	28,977
First-Year admitted	1,988	2,034	1,950	2,031	2,043
Admissions rate	6.3%	6.7%	6.3%	6.9%	7.1%
First-Year enrollment	1,371	1,364	1,360	1,359	1,356
Yield	70.3%	68.8%	71.5%	68.2%	68.4%
Total Enrollment:					
Yale College	5,472	5,532	5,477	5,427	5,399
Graduate and professional schools	6,986	6,853	6,859	6,591	6,424
Total	12,458	12,385	12,336	12,018	11,823
Yale College Term Bill and Financial Aid:					
Yale College term bill	$ 64,650	$ 62,200	$ 59,800	$ 57,500	$ 55,300
Average grant award for students receiving aid	$ 50,950	$ 48,294	$ 46,445	$ 44,785	$ 42,100

Message from the President

I am delighted to present the Yale Financial Report for 2016-2017. The careful stewardship of our resources allows Yale to realize its mission of educating leaders and improving the world. These accomplishments are a credit to the entire Yale community.

This report is an opportunity to share important milestones from the past year and outline the academic priorities that will guide future investments. These priorities, which I announced earlier this year, will allow Yale to build on its signature strengths and bolster areas where we must be strong. Investments focused on the sciences, arts, humanities, social science, and faculty excellence will advance Yale's mission.

Yale is making its boldest investment by far in the sciences, broadly speaking. Our students, faculty, and staff have the opportunity to pursue world-changing scientific research along with a best-in-class education. Leaders of tomorrow, even if they do not work in the science and technology sectors, need to be able to think like scientists. This year we broke ground on the new Yale Science Building on Science Hill—a major step in advancing scientific research and learning on our campus. We also renovated the teaching laboratories on Science Hill and the Wright Physics Laboratory, and we established the Blavatnik Fund for Innovation at Yale, an accelerator fund that provides $10 million over five years to support Yale faculty. This fall we will launch the programs of the Tsai Center for Innovative Thinking at Yale (CITY), while we plan a building to house it. Tsai CITY is not just about ventures, it is about innovative thinking across campus—students will have the opportunity to learn, create, and collaborate across disciplines.

The quality and promise of our faculty's work continue to attract major funding from the federal government, which finances 49 percent of research at Yale. The university pays for 40 percent, and foundations and other sources cover the remainder. Yale faculty members reported approximately 240 inventions and filed over 400 patent applications in the past year. Over the past 20 years, Yale inventions have led to the creation of nearly 60 companies in the New Haven region—attracting more than $1 billion in professional venture capital investment and creating over 1,400 jobs in the region.

The arts represent another area of world-class strength at Yale. Our four professional schools in the arts—art, drama, architecture, and music—drive the vibrant and wide-ranging creative community that distinguishes Yale from other major universities. This year we dedicated the new Adams Center for Musical Arts, which includes the beautifully renovated Hendrie Hall and an additional 34,000 square feet of space for rehearsals, performances, and collaborations. This wonderful facility will draw musicians from the School of Music, Yale College, and across the university to practice and perform in a single space—opening the door to tremendous new possibilities.

The humanities are a critical part of liberal education and teach us to deal with complexity and to communicate clearly and accurately. This year we began the renovation of the Hall of Graduate Studies—a.k.a. 320 York Street—which will provide a central home for the humanities. Far more than a simple renovation, this new quadrangle will bring scholars and graduate students from two-thirds of the humanities departments together under one roof, increasing the partnership of faculty members and students across disciplinary boundaries.

Our investments in social science will emphasize the rigorous use of experimentation and data to address some of the most critical public policy issues of our day, including health care, the economy, and the environment. The recent transformation of the Department of Statistics into the Department of Statistics and Data Science and the new undergraduate major it will offer support this data-driven approach to address policy questions. We also continue to promote interdisciplinary scholarship among our departments and schools. The new John Kerry Initiative, housed in the Jackson Institute of Global Affairs, will bring together students and faculty in the Yale Law School, School of Management, Divinity School, and School of Forestry & Environmental Studies. Through the Kerry Initiative, Yale welcomes the former secretary of state and member of the Class of 1966 to teach, engage in research, and convene global leaders and other stakeholders on campus.

As the global research university most committed to teaching and learning, Yale continues to invest in its students and faculty. In February, we opened the new Center for Teaching and Learning—24,000 square feet of renovated space in Sterling Memorial Library. We have strengthened our commitment to access and affordability. Undergraduates with the most need are receiving more financial aid than ever before, including start-up grants to help them buy computers. The generosity of donors has enabled us to increase access and attract excellent undergraduates regardless of financial need. As has been the case since 2000, Yale is providing full funding—stipend, tuition, and health insurance—to all our doctoral students for up to six years. Yale is also establishing strategies to recruit, retain, and promote the very best scholars, researchers, and educators to join us in New Haven. Our superb faculty are known around the world for their brilliance and achievements, and we will continue to look for ways to advance their work.

As we celebrate the successes of the past year, we also reflect on our great responsibility to manage, preserve, and grow Yale's resources. We are committed to stewarding our resources wisely, ensuring that future generations benefit from Yale's vital leadership in the world. I extend my deepest appreciation to you—members of the Yale community—for your remarkable generosity and support for this university.

Peter Salovey
President and Chris Argyris Professor of Psychology

Message from the Senior Vice President for Operations and the Vice President for Finance

Strong Financial Results

The university finished the year ended June 30, 2017 with strong financial results, generating a surplus from operations on a generally accepted accounting principles (GAAP) and Management View basis. On a GAAP basis Yale generated a surplus of $167 million from operations. On a Management View basis – the way Yale looks at financial information for internal discussion and decision-making purposes – Yale generated a surplus of $115 million from operations or 3.1% of revenues.

The balance sheet remains strong with $29 billion in net assets. This represented an increase of $2.4 billion or 9.2% over the prior year, fueled by an increase of $1.8 billion in the endowment – the result of an 11.3% investment return reduced by $1.2 billion in endowment spending to support operations. The balance sheet also benefited from a decrease in the unfunded liability for retirement benefits primarily due to investment returns on defined benefit plan assets.

Growth in Three Largest Revenue Sources

Each of Yale's three largest revenue sources – endowment spending, medical services income, and grant and contract income – which together accounted for 79% of the university's revenues – grew at a healthy rate, contributing to the positive operating result. For historical perspective, the weighted average growth of these three revenue sources was 7.5% versus the prior year, the fastest combined rate of growth since the 2008-09 economic downturn.

Endowment spending remains the single largest source of operating revenue and contributed $1,226 million or 34% of total revenues. The Yale Endowment, which is made up of roughly 7,400 individual endowment funds, continued to provide essential support to activities across the entire campus – including financial aid for undergraduate and graduate students, support for professorships and research, student activities and residential life, athletic facilities, libraries and museums, and the full range of other activities that support teaching and research at Yale.

For schools and units outside the Medical School, the endowment provides 56% of annual revenues on average, and for some schools their dependence on the endowment is much higher. The Yale Endowment – a result of the generosity of alumni and friends, the exceptional performance of the university's Investments Office, and careful stewardship by generations of Yale leaders – is the financial backbone that enables the university to carry out its broad and important mission. Spending from the endowment this past year grew by 6.3% and was 4.8% of the endowment's market value, a result of the university's endowment spending policy (described in the attached report) whereby Yale aims to spend roughly one quarter of the endowment's market value every five years. This enormous sum, together with the impact of inflation, needs to be replenished on an ongoing basis by investment returns and judicious management to avoid spending too much or too little on the current generation of scholars and students. We take this responsibility seriously, and it is one of the most important considerations for responsible financial management of the university.

The Medical School, which generates nearly half of the university's revenue, is funded primarily by two revenue sources, as is typical for an academic medical center: medical services income and grants and contracts income. Medical services income, generated primarily by Yale Medical School physicians caring for patients, was $905 million and grew by 9.9% over the prior year, a result of the continued successful expansion of the clinical practice in partnership with the school's affiliate, Yale New Haven Health System (a separate legal entity that includes Yale New Haven Hospital). Grant and contract income, the majority of which is generated by the Medical School, was $768 million and grew by 6.8%. This resulted from the continued success of Yale faculty in securing highly-competitive funding for their ground-breaking research. Most of this funding came from the National Institutes of Health, and the remainder is funded by federal and state agencies as well as foundations that support Yale's exploration of the sciences, arts, humanities, and social sciences.

Other Financial Highlights

A few other financial highlights from the year deserve mentioning. The positive operating results above were also helped by lower interest expense on Yale's $3.5 billion of debt, a source of funding for the university's building program. Over the past few years Yale has refinanced most of its debt to take advantage of the low interest rate environment. These actions are described, as usual, in the footnotes to the financial statements, and lower interest expense contributed roughly $16 million in expense savings for the year.

An exciting set of highlights lies within the $395 million in capital spending for the year with the single largest project being the final phase of construction for the two new residential colleges, Benjamin Franklin College and Pauli Murray College. Franklin and Murray are now open, and this fall they welcomed a new cohort of students as part of the first expansion of Yale College in nearly five decades. Other major projects with spending during the year included the groundbreaking for the New Science Building, the launch of a major renovation for the Hall of Graduate Studies as a future home for Humanities departments, planning for the Schwarzman Center, the completed renovations for both the Beinecke Rare Book and Manuscript Library and the Adams Center for Musical Arts, and the opening of the new Center for Teaching and Learning.

Looking Ahead

While Yale's revenues grew at a healthy rate this past year, we are mindful that today's environment holds perceptible risk for each of the three major revenue sources. The Yale Endowment, as always, will be subject to the uncertainty of future investment returns; and medical services revenue and sponsored agreement income both face uncertainty related to budget and regulatory developments at the federal and state level, e.g., through the funding of Medicare and Medicaid, or potential modifications to the Affordable Care Act. We remain vigilant with an eye toward how best to position Yale's finances to support its mission come what may.

On a brighter note President Salovey recently announced a set of academic priorities, and in his letter he described several initiatives already completed or underway with others still to come. We have begun aligning our financial resources to advance these priorities. These priorities will be important to Yale's future and exciting to make a reality. We look forward to providing updates on these in the years ahead.

Finally, we are deeply grateful for the Yale alumni, faculty, students, staff, and friends who have been so generous with their time, treasure, and talents in supporting Yale – and for their work to improve the world today and for future generations. You are Yale's most valuable asset. *Sine qua non*.

Jack F. Callahan

Jack F. Callahan, Jr.
Senior Vice President for Operations and
Chief Operating Officer

Stephen C. Murphy
Vice President for Finance and
Chief Financial Officer

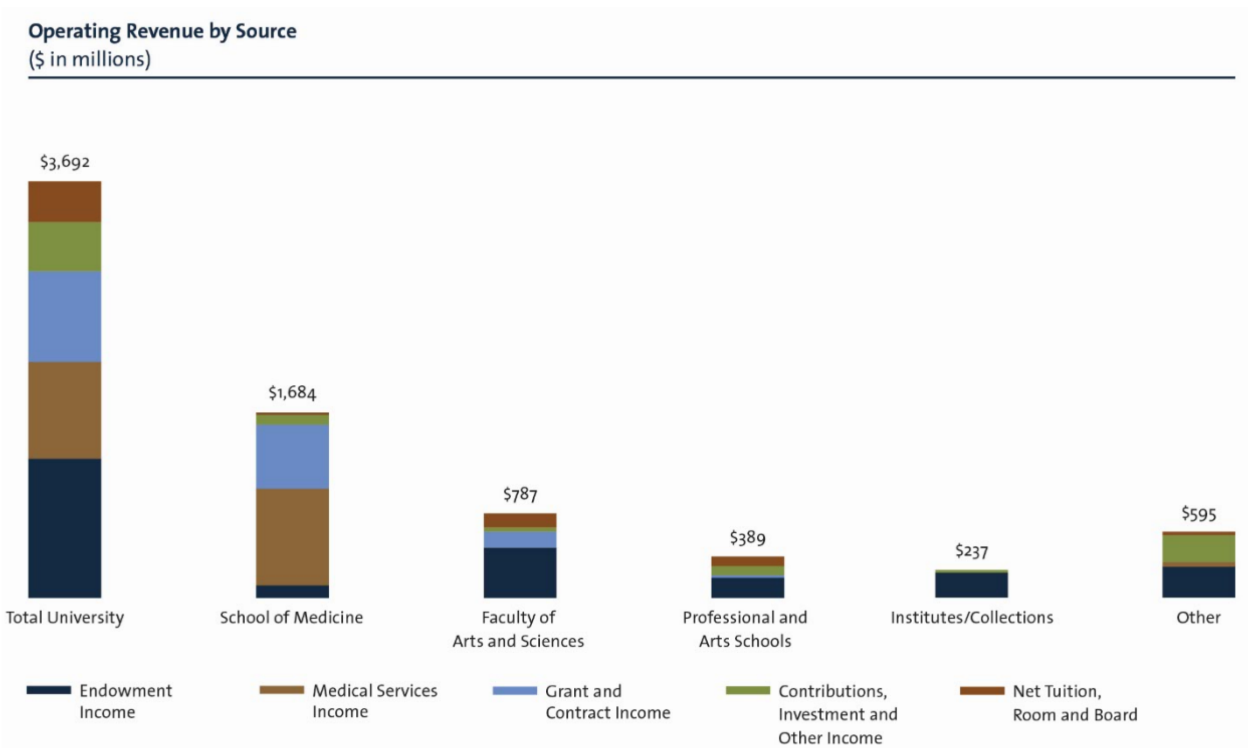
Financial Results

Overview

Yale University ("Yale" or the "university") manages its operations to achieve long-term financial equilibrium. It is committed to sustaining both the programs and the capital assets (endowment and facilities) supporting those programs over multiple generations. Endowment income, Yale's largest source of revenue, is allocated to the operating budget based on a spending policy that preserves the endowment asset values for future generations, while providing a robust revenue stream for current programs. Similarly, Yale's operating budget provides the major portion of the funds needed, through the capital replacement charge ("CRC"), to replenish the capital base necessary to ensure that buildings are maintained to support current programs.

Fiscal Year 2017 Management View Results

The university budget structure is managed through 49 separate budget units that are combined into five categories for reporting purposes.



The largest unit is the School of Medicine, representing 46% of university total operating revenue. The School of Medicine engages in research, teaching, and clinical practice. Revenues for patient care services, net of contractual adjustments, are primarily based on negotiated contracts from managed care companies (37%), BlueCross BlueShield (26%), Medicare (20%), Medicaid (7%) and commercial insurance and others (10%). Additionally, approximately 31% of the School of Medicine's medical services income in 2017 represents revenue recognized as a result of the university's affiliation with Yale-New Haven Hospital ("the Hospital"). Yale Medicine ("YM") is one of the largest academic multi-specialty practices in the country and the largest in Connecticut. As of June 30, 2017, YM was composed of 1,160 full-time and 256 part-time physicians providing services in over 100 specialty and subspecialty areas organized into 21 departments, engaging in research, and participating in teaching approximately 843 total students (excluding Ph.D. students) and 906 residents. The School of Medicine performs significant research for federal, state and corporate entities. Research funded by the federal government represents 78% of total research performed at the School of Medicine with the National Institutes of Health ("NIH") providing the largest component of that funding at 90%. The university has established policies and procedures to manage and monitor compliance with these important agreements.

The Faculty of Arts and Sciences includes Yale's undergraduate and graduate programs in the arts and sciences. During the 2016-2017 academic year, 5,472 undergraduate students were enrolled at Yale College. The undergraduate population is a diverse group attracted from across the United States and from many foreign countries. Foreign students account for approximately 11% of the undergraduate population. Yale College is dedicated to providing undergraduates with a liberal arts education that fosters intellectual curiosity, independent thinking, and leadership abilities. Students learn to think critically and independently and to write, reason, and communicate clearly in preparation for a spectrum of careers and vocations. During the 2016-2017 academic year, 2,890 students were pursuing their studies at the Graduate School of Arts and Sciences. Yale Graduate School of Arts and Sciences considers learning to teach to be an integral part of doctoral education and incorporates training and teaching opportunities into every program. Throughout the unique program of study crafted by graduate students and their faculty advisers, the university provides support that allows Ph.D. students to focus on their scholarship, successfully complete their degrees, and pursue rewarding careers.

The Professional and Arts Schools category includes the Divinity School, the Law School, the School of Art, the School of Music, the School of Forestry & Environmental Studies, the School of Nursing, the School of Drama, the School of Architecture, and the School of Management. During the 2016-2017 academic year, 3,253 students were pursuing their studies at one of Yale's professional schools. Institutes and Collections includes the libraries, museums and galleries, and large institutes with significant programmatic and financial activity across multiple academic units. First-hand encounters with Yale's collections are an integral part of teaching and learning across the university, helping students forge creative connections and inspiring tomorrow's leaders. The Other category includes Athletics and various administrative and support units.

The university ended the year with a surplus from operations of $115 million on a Management View basis. Actual operating revenues increased 6% and actual operating expenses, excluding transfers, increased 4% compared to 2016. Endowment income growth contributed to a strong revenue increase. Grant and contract income for the School of Medicine was significantly higher than the prior year partially due to the increased NIH budget. In addition, the clinical practice continues to grow at a rapid pace with increases in medical services income and faculty salaries.

The consolidated statement of activities in the audited financial statements is presented in accordance with accounting principles generally accepted in the United States of America ("GAAP"). GAAP recognizes revenue when earned and expenses when incurred. The Management View, used for internal decision-making, is focused more on resources available and used in the fiscal period presented. The Management View does not include certain expenses that are paid out over the long-term, such as unfunded defined benefit costs, and certain revenue that will not be received within the next fiscal year, such as pledged contribution revenue. Another significant difference is that the Management View recognizes capital maintenance through a CRC and recognizes equipment purchases as expense in the year acquired versus the historical cost depreciation expensed in the consolidated statement of activities. The Management View includes the realized gains and losses on energy hedges and interest rate swaps used to manage exposure to energy and interest rate fluctuations. GAAP requires these realized gains and losses to be presented net of related unrealized gains and losses. The GAAP financial statements do not present fund balance transfers between the operating, physical, and financial categories, as the Management View does. The Management View presentation, along with a summary of the differences between the university's net operating results from the Management View to the GAAP View, is presented below.

Yale University Operating Results – Management View

for the years ended June 30, 2017 and June 30, 2016 ($ in thousands)

	June 30, 2017	June 30, 2016
Revenues:		
Tuition, room and board - gross	$ 628,430	$ 603,894
Tuition discount	(281,878)	(271,315)
Tuition, room and board - net	346,552	332,579
Grants and contract income	768,318	719,526
Medical services income	904,945	823,132
Contributions	161,349	162,784
Endowment income	1,225,833	1,152,750
Investment and other income	285,229	281,664
Total external income	**3,692,226**	**3,472,435**
Expenses:		
Faculty salaries	864,760	814,857
All other salaries	809,216	782,812
Employee benefits	532,377	513,098
Total salaries and benefits	**2,206,353**	**2,110,767**
Stipends and fellowships	98,647	95,491
Non-salary expenses	856,217	803,416
Interest, CRC and other amortization	349,848	357,328
Total expenses	**3,511,065**	**3,367,002**
Transfers	(65,844)	(68,111)
TOTAL NET OPERATING RESULTS (MANAGEMENT VIEW)	**115,317**	**37,322**
Summary of differences between the Management View and GAAP presentation of net operating results:		
Operating pledge activity	(19,376)	17,981
Expenses related to long-term liabilities	(40,533)	(38,524)
Capital funding, depreciation and disposals	(5,592)	(28,214)
Interest rate and energy hedge	47,799	54,857
Deferred investment income	3,620	(5,210)
Funding transfers	65,844	68,111
INCREASE IN NET ASSETS FROM OPERATIONS PER THE CONSOLIDATED STATEMENT OF ACTIVITIES (GAAP VIEW)	**$ 167,079**	**$ 106,323**

Fiscal Year 2017 GAAP Results

Operating Revenue

The university derives its operating revenue from the following sources: tuition, room and board (net of certain scholarships and fellowships), grants and contracts, medical services, endowment income, contributions, investment, and other income.

Net Tuition, Room and Board

Net tuition, room and board totaled $345 million in fiscal year 2017, an increase of 7% from 2016, and represented 9% of the university's operating revenue. Tuition, room and board totaled $628 million in 2017, an increase of 4% from 2016. Of this amount, $547 million represents tuition, a 4% increase over 2016 due primarily to the increased enrollment in the School of Management coupled with an increase in the Yale College term bill, and $81 million represents revenue from room and board, which increased 2% from 2016. In accordance with GAAP, student income is presented net of certain scholarships and fellowships, which totaled $283 million and $281 million for 2017 and 2016, respectively.

Tuition for students enrolled in Yale College was $49,480, and room and board was $15,170, bringing the total term bill to $64,650 for the 2016-2017 academic year. The increase in the Yale College term bill was 4% over the 2015-2016 academic year.

The university maintains a policy of offering Yale College admission to qualified applicants without regard to family financial circumstances. This "need-blind" admission policy is supported with a commitment to meet in full the demonstrated financial need of all students throughout their undergraduate years with little or no student debt subsequent to graduation.

During the 2016-17 academic year, 50% of Yale College undergraduates received financial aid. In the Graduate School of Arts and Sciences, 95% received financial aid in the form of tuition discounts, stipends, and health insurance. In the professional schools, 78% received financial aid. In all, 70% of total university eligible students enrolled received some form of university-administered student aid in the form of scholarships, loans, or a combination of both scholarships and loans.

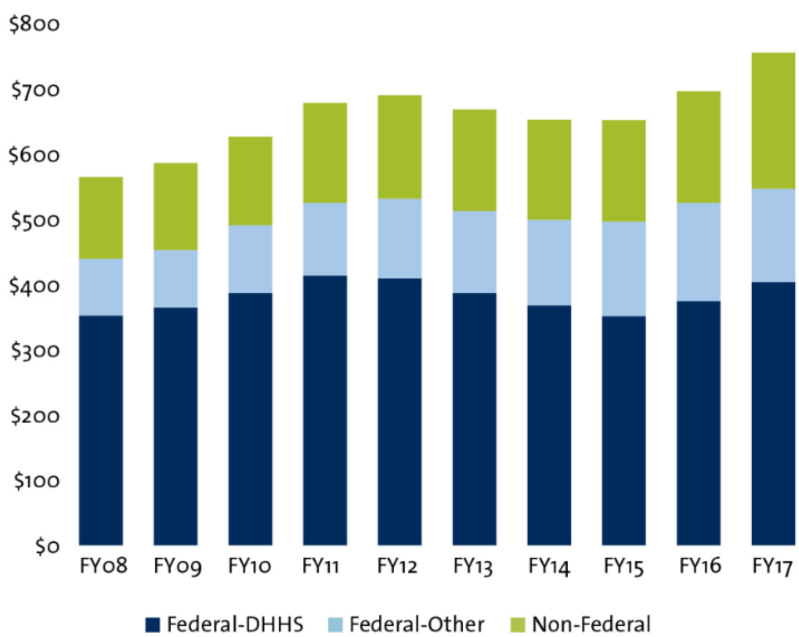
Grant and Contract Income

Grant and contract income totaled $768 million in fiscal year 2017, an increase of 7% from 2016, and represented 21% of the university's operating revenue. The Yale School of Medicine, which received 79% of the university's grant and contract income in fiscal year 2017, reported an increase of 5% for 2017, while the remaining university units increased by 12%.

The federal government funded $567 million, or 74%, of 2017 grant and contract income, in support of Yale's research and training programs. Included in the $567 million is the Department of Health and Human Services ("DHHS") funding of $409 million, primarily through the NIH, an increase of 7% compared to the prior year. The university also receives significant research funding from the National Science Foundation, the Department of Energy, the Department of Defense, and student aid awards from the Department of Education. Non-federal sources, which include foundations, voluntary health agencies, corporations, and the State of Connecticut, provided an additional $201 million in funding for research, training, clinical, and other sponsored agreements during 2017.

In addition to the reimbursement of direct costs charged to sponsored awards, sponsoring agencies reimburse the university for a portion of its facilities and administrative costs (referred to as indirect costs), which include costs related to research laboratory space, facilities, and utilities, as well as administrative and support costs incurred for sponsored activities. These reimbursements for facility and administrative costs amounted to $192 million in 2017. Recovery of facility and administrative costs associated with federally sponsored awards is recorded at rates negotiated with DHHS, the university's cognizant agency.

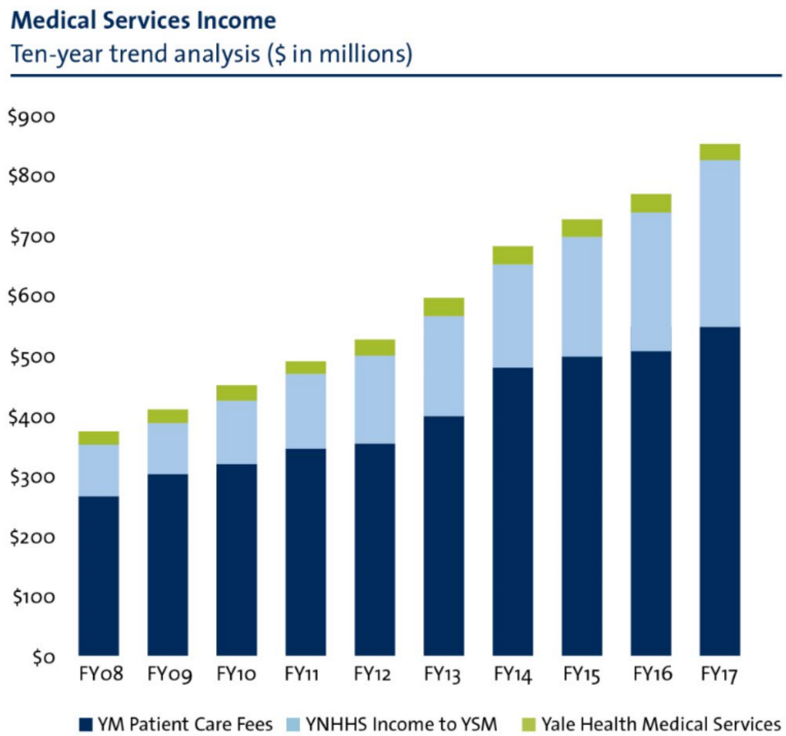
Grant and Contract Income
Ten-year trend analysis ($ in millions)



Medical Services Income

Medical services income totaled $905 million in fiscal year 2017, an increase of 10% from 2016, and represented 25% of the university's operating revenue. The largest portion of this revenue stream, $856 million, is derived from medical services provided by the School of Medicine's Yale Medicine ("YM"), one of the largest academic multi-specialty practices in the country and the largest in Connecticut. The strong investment in YM for physician leadership, recruitment and program development by the Yale New Haven Health System ("YNHHS") continued in fiscal year 2017 with YNHHS support increasing by 8%, to a total of $265 million.

Medical services income generated by YM increased by $78 million over 2016, or 10%. The clinical activity increased 7% over 2016 due to new faculty hires and the continued focus on improving physician productivity. Other contributors to the clinical income growth include a new multi-disciplinary Center for Musculoskeletal Care in Stamford and new contractual agreements with Lawrence & Memorial Hospital.



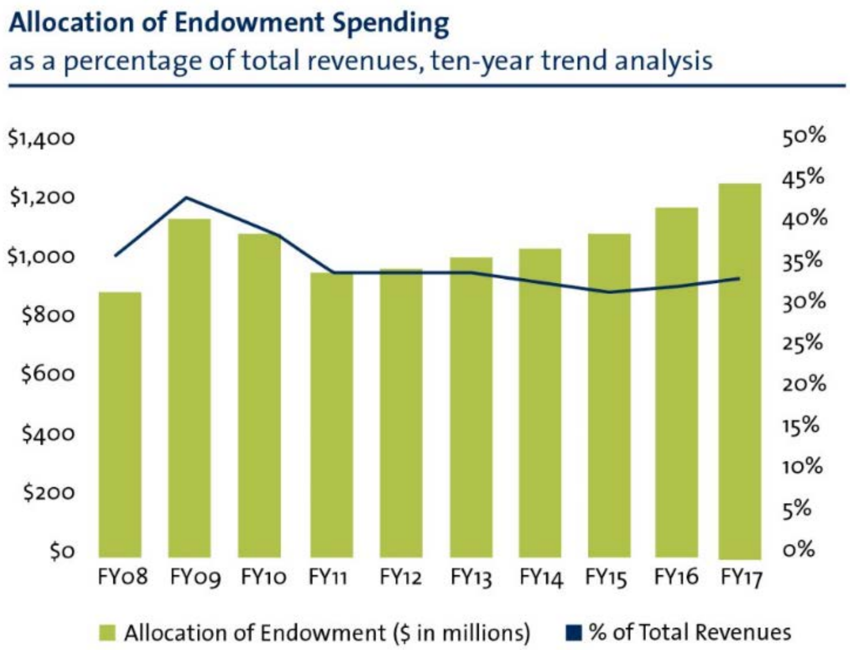
Contributions

Donations from individuals, corporations, and foundations represent a vitally important source of revenue for the university. Gifts to the university provide necessary funding for current operations, for long-term investments in the university's physical infrastructure, and, in the case of gifts to the endowment, provide permanent resources for core activities for future generations. Gifts of $142 million in 2017 and $181 million in 2016, made by donors to support the operations of the university, are reflected as contribution revenue in the operating section of the consolidated statement of activities, whereas gifts to the university's endowment and for building construction and renovation are reflected as contribution revenue in the non-operating section. In aggregate, contributions included in the university consolidated financial statements total $497 million in 2017 compared to $435 million in 2016.

Certain gifts commonly reported in fundraising results are not recognized as contributions in the university's consolidated financial statements. For example, "in-kind" gifts such as works of art and books are not recognized as financial transactions in the university consolidated financial statements. Grants from private, non-governmental sources (i.e., corporations and foundations) reported as gifts for fund raising purposes are included in the consolidated statement of activities as grant and contract income.

Allocation of Endowment Spending

Each year a portion of accumulated endowment investment returns is allocated to support operational activity. This important source of revenue represents 34% of total operating revenue this year, and it remains the largest source of operating revenue for the university. The level of spending is computed in accordance with an endowment spending policy that has the effect of smoothing year-to-year market swings. Endowment investment returns allocated to operating activities increased by 6% in 2017 to $1.2 billion. Additional information on Yale's endowment spending policy is provided in the endowment section of this report and in the footnotes to the consolidated financial statements.



Other Investment Income

Other investment income includes interest, dividends, and gains on non-endowment investments.

Other Income

Other income primarily includes publications income, income from executive education and other non-degree granting programs, royalty income, admissions revenue relating to athletic events and drama productions, parking revenue, special event and seminar fees, and application and enrollment fees.

Operating Expenses

Operating expenses totaled $3.5 billion for 2017, representing a 4% increase over 2016. With 4,483 faculty, 1,182 postdoctoral associates, 4,402 managerial and professional staff, and 5,133 unionized clerical, technical, service, and maintenance personnel, personnel costs are the single largest component (64%) of the university's total operating expenses (counts represent headcount as of fall 2016).

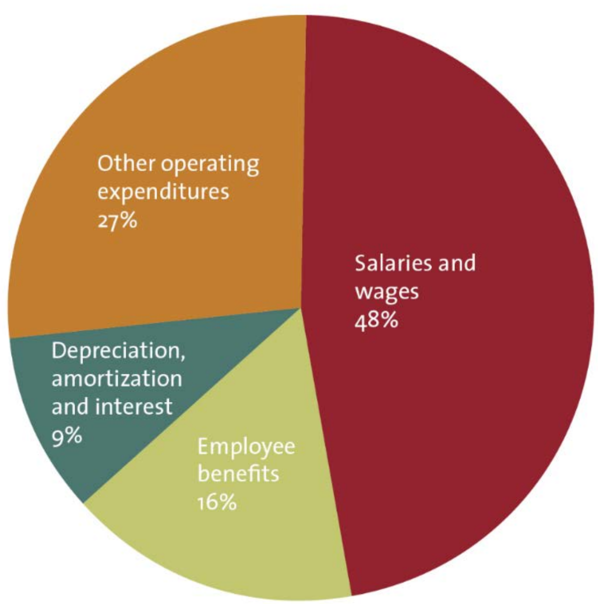
Personnel costs were $2.2 billion in 2017, a 5%, increase over 2016. Faculty salary expenses increased 6% which includes growth in clinical activities. Staff salaries and wages increased 3% from 2016 to 2017. The cost of providing employee benefits, including various pension, post-retirement health, and insurance plans in addition to Social Security and other statutory benefits, totaled $566 million for 2017, an increase of 7% from 2016. The largest drivers of this increase are the costs for defined benefit plans and medical benefits.

Depreciation, amortization, and interest expenses decreased 4%. Favorable debt refinancing resulted in lower interest costs.

Other operating expenses, including services, materials and supplies, and other expenses, increased 4% from 2016, primarily as a result of increased grant-funded and clinical activities in the School of Medicine.

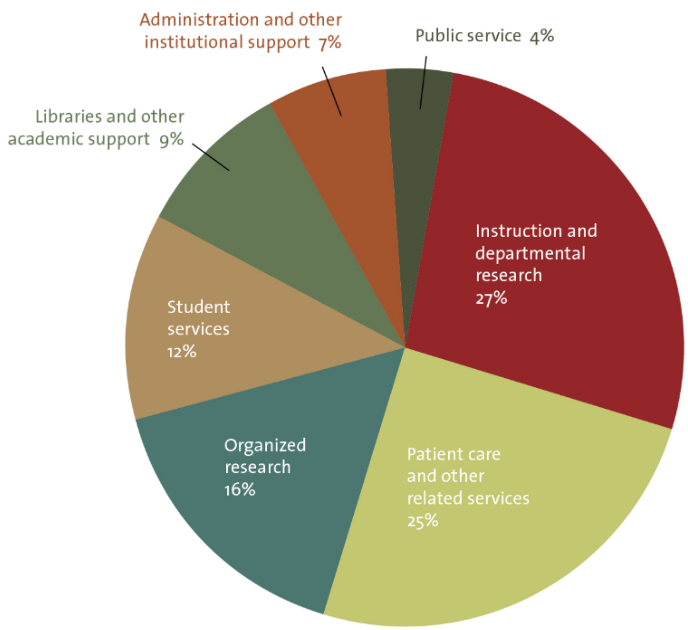
Yale reports its operating expenses by natural classification in the consolidated statement of activities and discloses its operating expenses by functional classification in the notes to consolidated financial statements in accordance with GAAP.

Operating Expenses by Natural Classification



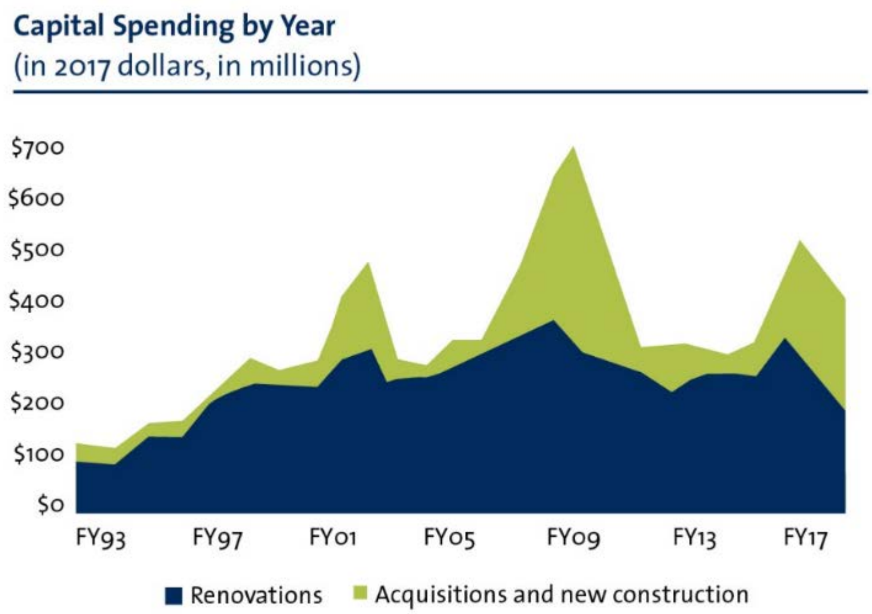
According to functional classification, the university spent 48% of its operating resources on academic activities including instruction and departmental research, libraries and other academic support, and student services. Organized research represented 16% and patient care 25% of spending. Organized research and patient care activities are integral to academic and learning experiences at the university.

Operating Expenses by Functional Classification



Physical Capital

Capital spending on facilities in fiscal year 2017 totaled $395 million. This represents a decrease in spending of 21% compared to 2016.

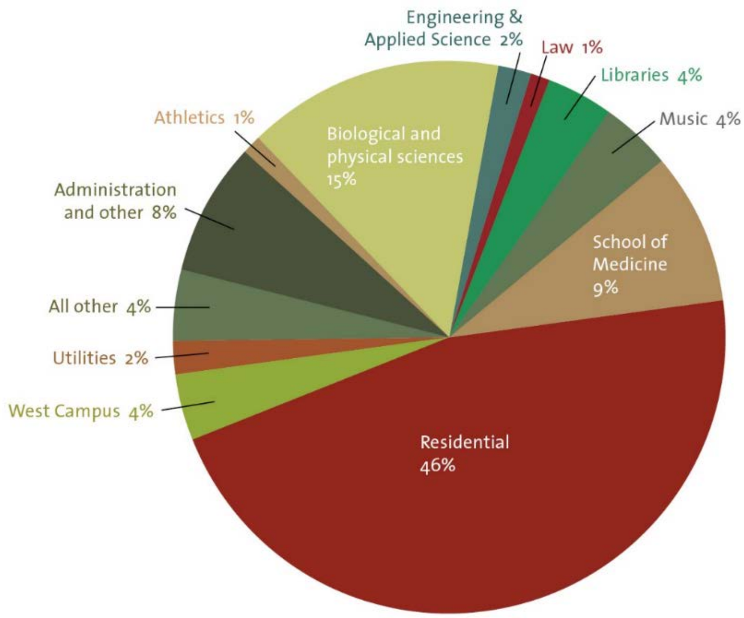


The largest share of the university's capital spending, 46%, was used to complete construction previously under way on two new residential colleges: Pauli Murray, just south of Ingalls Rink, and Benjamin Franklin, on the corner between Prospect Street and the Farmington Canal. Construction began in November 2014 and was completed in July 2017, welcoming student residents in August 2017.

The university allocated 15% of its capital spending to fund large initiatives in the biological and physical sciences and 9% of its capital spending to fund investments in space at the School of Medicine. The largest of these projects, the Yale Science Building, will provide new research and teaching space on Science Hill. The project includes the demolition of the J.W. Gibbs Laboratory, which will be replaced with a new 240,000 gross square foot, seven-level laboratory building, and the renovation of program space beneath the Science Hill Plaza. Construction began in April 2017 and is scheduled to be completed in the fall of 2019.

The university's ambitious renovation and building plans were funded by a combination of gifts, debt, and significantly, funds from the operating budget. The university continues to rely heavily on the extraordinary generosity of its alumni and friends. During fiscal year 2017, the university recognized $151 million of contributions for the support of renovation and construction. The university has been the beneficiary of an outstanding response from donors on the construction of the new residential colleges Pauli Murray and Benjamin Franklin, the Adams Center for Musical Arts renovation, the Schwartzman Center renovation, the Becton Lower Level Teaching Laboratory renovation, and the 320 York Street (Hall of Graduate Studies) renovation.

Capital Spending by Campus Area



An important source of funding for the capital program is debt provided through the Connecticut Health and Educational Facilities Authority ("CHEFA") which allows the university to borrow at tax exempt rates. This funding source is critical to keeping the cost of funding at lower levels which allows the university to maximize the use of its resources in the fulfillment of its mission of teaching and research. The university used the bond proceeds for the $250 million (Series 2014A) issued in fiscal year 2015 through CHEFA to finance planned renovations and capital additions. The university continues to receive the highest bond ratings available: AAA from Standard and Poor's and Aaa from Moody's.

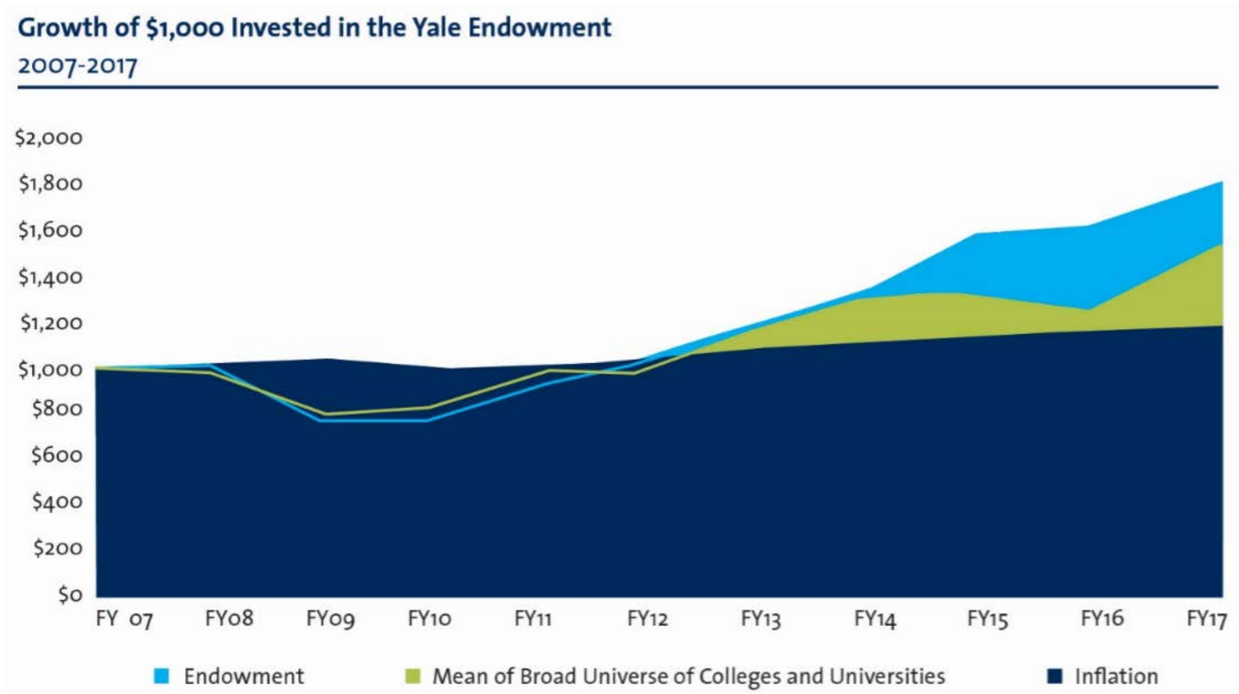
Recognizing the critical importance of maintaining its physical capital over many generations, the university allocates funds directly from the operating budget to a capital maintenance account. The annual equilibrium funding target for internal purposes is an estimate that is reserved from annual operating funding sources to maintain Yale's facilities in good condition on a consistent basis, thus avoiding deferred maintenance. While not an exact science, an estimate of the full capital replacement equilibrium level for 2017 is $227 million. In 2017, the large majority of this amount was funded with operating funds.

Endowment

The endowment provides the largest source of support for the academic programs of the university. To balance current and future needs, Yale employs investment and spending policies designed to preserve endowment asset values while providing a substantial flow of income to the operating budget. At June 30, 2017, net assets in the endowment totaled approximately $27.2 billion, after the allocation of endowment spending of $1.2 billion to the operating budget during the year.

Investment Performance

For the fiscal year ending June 30, 2017, the endowment earned an 11.3% investment return. During the past decade, the endowment earned an annualized 6.6% return, which added $3.5 billion of value relative to a composite passive benchmark and $5.3 billion relative to the mean return of a broad universe of colleges and universities.



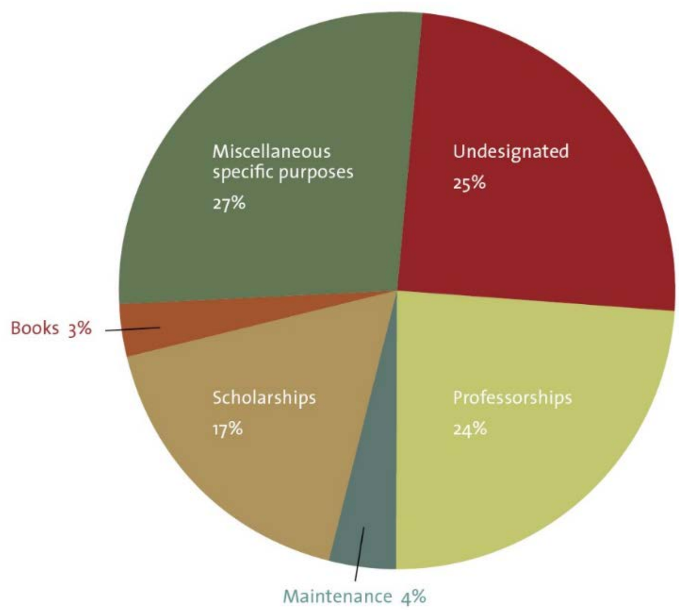
Endowment Spending

The endowment spending policy, which allocates endowment earnings to operations, balances the competing objectives of providing a stable flow of income to the operating budget and protecting the real value of the endowment over time. The spending policy manages the trade-off between these two objectives by using a long-term target spending rate combined with a smoothing rule, which adjusts spending in any given year gradually in response to changes in endowment market value.

The target spending rate approved by the Yale Corporation currently stands at 5.25%. According to the smoothing rule, endowment spending in a given year sums to 80% of the previous year's spending and 20% of the targeted long-term spending rate applied to the fiscal year-end market value two years prior. The spending amount determined by the formula is adjusted for inflation and constrained so that the calculated rate is at least 4.0% and not more than 6.5% of the endowment's market value. The smoothing rule and the diversified nature of the endowment mitigate the impact of short-term market volatility on the flow of funds to support Yale's operations.

The majority of endowment spending is allocated across multiple purposes, including financial aid and professorships, based on donor restrictions or internal designations by the university. Endowment spending that is neither restricted nor designated provides additional support for budgetary priorities, such as financial aid and professorships, as well as for other purposes to carry out the university's mission.

Endowment Spending Allocation



Asset Allocation

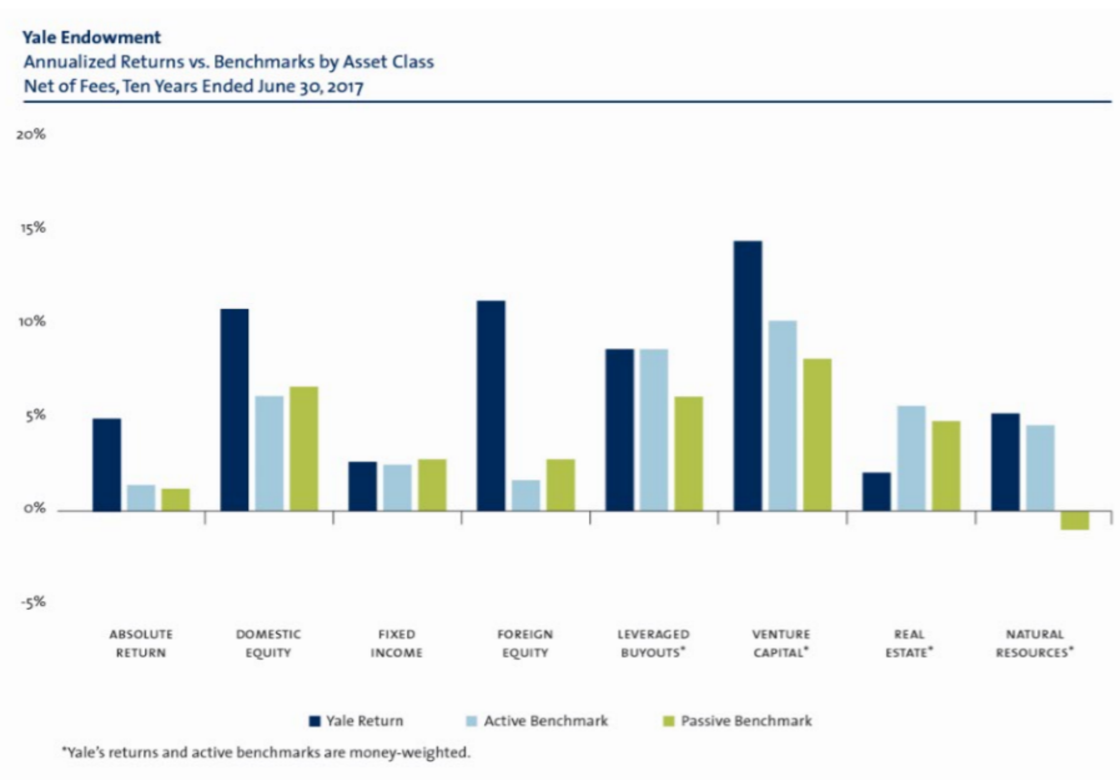
Asset allocation proves critical to successful endowment performance. Yale's asset allocation policy combines tested theory and informed market judgment to balance investment risks with the desire for high returns.

Both the need to provide resources for current operations and the desire to preserve the purchasing power of assets dictate investing for high returns, which leads the endowment to be weighted toward equity. In addition, the endowment's vulnerability to inflation directs the university away from fixed income and toward equity instruments. Hence, over 90% of the endowment is invested in assets expected to produce equity-like returns, through domestic and international securities, real assets, and private equity.

Over the past thirty years, Yale significantly reduced the endowment's exposure to traditional domestic marketable securities, reallocating assets to nontraditional asset classes. In 1987, nearly 80% of the endowment was committed to U.S. stocks, bonds, and cash. Today, domestic marketable securities account for approximately 10% of the portfolio, and private equity, absolute return strategies, real assets, and foreign equity represent around 90% of the endowment.

The heavy allocation to nontraditional asset classes stems from the diversifying power they provide to the portfolio as a whole. Alternative assets, by their nature, tend to be less efficiently priced than traditional marketable securities, providing an opportunity to exploit market inefficiencies through active management. Today's portfolio has significantly higher expected returns and lower volatility than the 1987 portfolio.

Asset Class	June 30, 2017	Current Target
Absolute Return	25.1%	25.0%
Venture Capital	17.1%	17.0%
Foreign Equity	15.2%	15.5%
Leveraged Buyouts	14.2%	14.0%
Real Estate	10.9%	10.0%
Bonds and Cash	5.8%	7.5%
Natural Resources	7.8%	7.0%
Domestic Equity	3.9%	4.0%
Total	100.0%	100.0%



Active Benchmarks

Absolute Return: Credit Suisse and HFRI Composite
Domestic Equity: BNY Median Manager, U.S. Equity
Fixed Income: BNY Median Manager, Fixed Income
Foreign Equity: BNY Median Manager Composite, Foreign Equity
Leveraged Buyouts: Cambridge Associates Leveraged Buyouts Composite
Venture Capital: Cambridge Associates Global Venture Capital
Real Estate: Cambridge Associates Real Estate
Natural Resources: Cambridge Associates Natural Resources Composite

Passive Benchmarks

Absolute Return: Barclays 9-12 Mo Treasury
Domestic Equity: Wilshire 5000
Fixed Income: LB Treasury Index through June 2008, Barclays 1-5 Year Treasury from July 2008 to September 2014, Barclays 1-3 Year Treasury thereafter
Foreign Equity: MSCI EAFE Investable Market Index / MSCI Emerging Markets Investable Market Index + MSCI China A-Share Investable Market Index, weighted according to target developed and emerging equity allocations
Leveraged Buyouts: Russell 2000 (75%) / MSCI ACWI ex-US Small-Cap Index (25%)
Venture Capital: Russell 2000 Technology (100%) through June 2010. Russell 2000 Technology (75%) / MSCI China Small Cap (17%) / MSCI India Small Cap (8%) thereafter
Real Estate: MSCI US REIT Index
Natural Resources: Custom Timber REIT basket / S&P OG Exploration & Production Index / Euromoney Global Mining Index, weighted according to target timber, oil and gas, and mining allocations, respectively

Endowment Summary

Yale continues to rely on the principles of equity orientation and diversification. These principles guide Yale's investment strategy, as equity orientation makes sense for investors with long time horizons and diversification allows the construction of portfolios with superior risk and return characteristics. The university's equity-oriented, well-diversified portfolio positions the endowment for long-term investment success.

Management's Responsibility for Financial Statements

Management of the university is responsible for the integrity and reliability of the consolidated financial statements. Management represents that, with respect to the university's financial information, the consolidated financial statements in this annual report have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP").

The accompanying consolidated financial statements have been audited by the university's independent auditors, PricewaterhouseCoopers LLP. Their audit opinion, on the following page, expresses an informed judgment as to whether the consolidated financial statements, considered in their entirety, present fairly, in conformity with GAAP, the consolidated financial position and changes in net assets and cash flows.

The university maintains a system of internal controls over financial reporting, which is designed to provide a reasonable assurance to the university's management and the Yale Corporation ("the Corporation") regarding the preparation of reliable published financial statements. Such controls are maintained by the establishment and communication of accounting and financial policies and procedures, by the selection and training of qualified personnel, and by an internal audit program designed to identify internal control weaknesses in order to permit management to take appropriate corrective action on a timely basis. There are, however, inherent limitations in the effectiveness of any system of internal control, including the possibility of human error and the circumvention of controls. Accordingly, even an effective internal control system can provide only reasonable assurance with respect to financial statement preparation. Furthermore, the effectiveness of the internal control system can change with circumstances.

The Corporation, through its Audit Committee comprised of members not employed by the university, are responsible for engaging the independent auditors and meeting with management, internal auditors, and the independent auditors to independently assess whether each is carrying out its responsibilities. Both the internal auditors and the independent auditors have full and free access to the Audit Committee.

Stephen C. Murphy
Vice President for Finance and
Chief Financial Officer

Lucy A. Lucker University
Controller and Chief
Accounting Officer

pwc

Report of Independent Auditors

To the President and Fellows of Yale University:

We have audited the accompanying consolidated financial statements of Yale University (the "University"), which comprise the consolidated statements of financial position as of June 30, 2017 and 2016 and the related consolidated statements of activities for the year ended June 30, 2017 and of cash flows for the years ended June 30, 2017 and 2016.

Management's Responsibility for the Consolidated Financial Statements

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

Auditor's Responsibility

Our responsibility is to express an opinion on the consolidated financial statements based on our audits. We conducted our audits 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 consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the University's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Yale University as of June 30, 2017 and 2016 and the changes in its net assets for the year ended June 30, 2017 and its cash flows for the years ended June 30, 2017 and 2016 in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

As discussed in Note 1 to the consolidated financial statements, the University changed the manner in which it accounts for its net periodic pension costs and net periodic postretirement benefit costs in 2017. Our opinion is not modified with respect to this matter.

Other Matters

We previously audited the consolidated statement of financial position as of June 30, 2016, and the related consolidated statements of activities and cash flows for the year then ended (not presented herein), and in our report dated October 21, 2016, we expressed an unmodified opinion on those consolidated financial statements. In our opinion, the information set forth in the accompanying summarized financial information as of June 30, 2016 and for the year then ended is consistent, in all material respects, with the audited consolidated financial statements from which it has been derived.

PricewaterhouseCoopers LLP

October 23, 2017

PricewaterhouseCoopers LLP, 185 Asylum Street, Suite 2400, Hartford, CT 06103
T: (860) 241 7000, F: (860) 241 7458, www.pwc.com/us

Yale University Consolidated Statement of Financial Position

as of June 30, 2017 and 2016 ($ in thousands)

		2017		2016
Assets:				
Cash and cash equivalents	$	378,349	$	190,728
Accounts receivable, net		206,104		223,860
Contributions receivable, net		617,765		567,946
Notes receivable		121,190		127,078
Investments, at fair value		32,735,282		30,910,832
Other assets		168,985		157,391
Land, buildings and equipment, net of accumulated depreciation		4,966,849		4,779,419
Total assets	$	39,194,524	$	36,957,254
Liabilities:				
Accounts payable and accrued liabilities	$	396,181	$	404,797
Advances under grants and contracts and other deposits		136,586		123,351
Other liabilities		1,531,307		1,631,524
Liabilities under split-interest agreements		134,417		129,252
Bonds and notes payable		3,514,699		3,533,672
Liabilities associated with investments		4,464,604		4,565,218
Advances from federal government for student loans		30,572		31,008
Total liabilities	$	10,208,366	$	10,418,822
Net Assets:				
Unrestricted	$	4,573,133	$	3,677,192
Temporarily restricted		20,251,572		18,856,357
Permanently restricted		3,901,251		3,664,811
Net assets: Yale University		28,725,956		26,198,360
Net assets: non-controlling interests		260,202		340,072
Total net assets	$	28,986,158	$	26,538,432
Total liabilities and net assets	$	39,194,524	$	36,957,254

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

Yale University Consolidated Statement of Activities

for the year ended June 30, 2017 with summarized comparative totals for the year ended June 30, 2016 ($ in thousands)

	Unrestricted	Temporarily Restricted	Permanently Restricted	2017	2016
Operating					
Revenues and releases:					
Net tuition, room and board	$ 345,322	$ -	$ -	$ 345,322	$ 323,253
Grant and contract income, primarily for research and training	768,292	-	-	768,292	719,525
Medical services income	904,945	-	-	904,945	823,132
Contributions	24,844	117,018	-	141,862	180,796
Allocation of endowment spending from financial capital	371,863	854,307	-	1,226,170	1,153,366
Other investment income	64,792	7,912	-	72,704	66,450
Other income	188,304	-	-	188,304	183,451
Total revenues	2,668,362	979,237	-	3,647,599	3,449,973
Net assets released from restrictions	964,435	(964,435)	-	-	-
Total revenues and releases	3,632,797	14,802	-	3,647,599	3,449,973
Expenses:					
Salaries and wages	1,649,551	-	-	1,649,551	1,574,036
Employee benefits	565,628	-	-	565,628	527,321
Depreciation, amortization and interest	319,322	-	-	319,322	331,140
Other operating expenditures	946,019	-	-	946,019	911,153
Total expenses	3,480,520	-	-	3,480,520	3,343,650
Increase in net assets from operating activities	152,277	14,802	-	167,079	106,323
Non-operating					
Contributions	16	165,851	189,328	355,195	254,380
Total endowment return	456,200	2,283,667	7,862	2,747,729	753,230
Allocation of endowment spending to operations	(203,341)	(1,024,590)	1,761	(1,226,170)	(1,153,366)
Other investment income (loss)	254,885	722	-	255,607	(435,102)
Change in funding status of defined benefit plans	246,399	-	-	246,399	(393,574)
Other (decreases) increases	(48,416)	(7,316)	37,489	(18,243)	(31,130)
Net assets released from restrictions	37,921	(37,921)	-	-	-
Increase (decrease) in non-operating activities	743,664	1,380,413	236,440	2,360,517	(1,005,562)
Total increase (decrease) in net assets - Yale University	895,941	1,395,215	236,440	2,527,596	(899,239)
Change in non-controlling interests	(79,870)	-	-	(79,870)	52,498
Total increase (decrease) in net assets	816,071	1,395,215	236,440	2,447,726	(846,741)
Net assets, beginning of year	4,017,264	18,856,357	3,664,811	26,538,432	27,385,173
Net assets, end of year	$ 4,833,335	$ 20,251,572	$ 3,901,251	$ 28,986,158	$ 26,538,432

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

Yale University Consolidated Statement of Cash Flows

for the years ended June 30, 2017 and 2016 ($ in thousands)

	2017	2016
Operating activities:		
Change in net assets	$ 2,447,726	$ (846,741)
Adjustments to reconcile change in net assets to net cash used in operating activities:		
Depreciation and amortization	261,693	260,746
Unrealized (gain) loss on other investments	(292,691)	420,667
Net endowment investment gain	(2,414,284)	(210,958)
Change in non-controlling interests	79,870	(52,498)
Change in funding status of defined benefit plans	(246,399)	393,574
Non-operating contributions	(355,195)	(254,380)
Contributed securities	(184,108)	(101,424)
Proceeds from sale of donated securities	21,579	15,381
Other adjustments	22,775	32,116
Changes in assets and liabilities that provide (use) cash:		
Accounts receivable	17,756	(24,478)
Contributions receivable	576	(17,949)
Other operating assets	2,929	6,717
Accounts payable and accrued expenses	(54,484)	(3,082)
Advances under grants and contracts and other deposits	13,235	21,419
Other liabilities	146,182	77,074
Net cash used in operating activities	(532,840)	(283,816)
Investing activities:		
Student loans repaid	16,558	17,462
Student loans granted	(9,912)	(12,479)
Purchases related to capitalized software costs and other assets	(19,101)	(14,239)
Proceeds from sales and maturities of investments	10,736,542	8,790,974
Purchases of investments	(10,034,499)	(8,361,249)
Purchases of land, buildings and equipment	(400,313)	(532,845)
Net cash provided by (used in) investing activities	289,275	(112,376)
Financing activities:		
Proceeds from restricted contributions	284,799	212,998
Proceeds from sale of contributed securities restricted for endowment	162,529	86,043
Contributions received for split-interest agreements	5,621	23,842
Payments made under split-interest agreements	(16,454)	(16,453)
Proceeds from long-term debt	849,916	300,000
Repayments of long-term debt	(856,027)	(308,276)
Interest earned and advances from Federal government for student loans	802	689
Net cash provided by financing activities	431,186	298,843
Net increase (decrease) in cash and cash equivalents	187,621	(97,349)
Cash and cash equivalents, beginning of year	190,728	288,077
Cash and cash equivalents, end of year	$ 378,349	$ 190,728

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

Yale University
Notes to Consolidated Financial Statements

1. Significant Accounting Policies

a. General

Yale University ("Yale" or the "university") is a private, not-for-profit institution of higher education located in New Haven, Connecticut. The university is governed by the Yale Corporation (the "Corporation"), a body of nineteen Trustees consisting of the President, ten Successor Trustees who are Successors to the original Trustees, six Alumni Fellows, and the Governor and Lieutenant Governor of Connecticut, ex officio.

The university provides educational services primarily to students and trainees at the undergraduate, graduate and postdoctoral levels, and performs research, training and other services under grants, contracts and other similar agreements with agencies of the federal government and other sponsoring organizations. The university's academic organization includes Yale College, the Graduate School of Arts and Sciences, twelve professional schools and a variety of research institutions and museums. The largest professional school is the Yale School of Medicine, which conducts medical services in support of its teaching and research missions.

The university has been granted tax exempt status under section 501(c)(3) of the Internal Revenue Code.

b. Basis of Presentation

The consolidated financial statements of the university include the accounts of all academic and administrative departments of the university, and affiliated organizations that are controlled by the university.

Financial statements of private, not-for-profit organizations measure aggregate net assets and net asset activity based on the absence or existence of donor-imposed restrictions. Net assets are reported as unrestricted, temporarily restricted, and permanently restricted and serve as the foundation of the accompanying consolidated financial statements. Brief definitions of the three net asset classes are presented below:

Unrestricted Net Assets - Net assets derived from tuition and other institutional resources that are not subject to explicit donor-imposed restrictions. Unrestricted net assets also include board designated funds functioning as endowment.

Temporarily Restricted Net Assets - Net assets subject to explicit donor-imposed restrictions on the expenditure of contributions or income and gains on contributed assets and net assets from endowments not yet appropriated for spending by the Corporation. When temporary restrictions expire due to the passage of time or the incurrence of expenditures that fulfill the donor-imposed restrictions, temporarily restricted net assets are reclassified to unrestricted net assets. Temporarily restricted net assets are established with restricted contributions from donors and restricted income generated from endowments. In addition, temporarily restricted net assets include restricted contributions from donors classified as funds functioning as endowment. Restrictions include support of specific schools or departments of the university, for professorships, research, faculty support, scholarships and fellowships, library and art museums, building construction and other purposes.

Permanently Restricted Net Assets - Permanently restricted net assets include donor restricted endowments and student loan funds. The university records as permanently restricted net assets the original amount of gifts which donors have given to be maintained in perpetuity ("donor restricted endowment funds"). For financial reporting purposes, all subsequent accumulated gains on such donor restricted endowment funds that are not classified as permanently restricted net assets are recorded as temporarily restricted net assets until appropriated for expenditure by the Corporation through the application of the endowment spending policy. The Corporation understands its policies on retaining and spending from endowment to be consistent with the requirements of Connecticut law.

Measure of Operations - The university's measure of operations as presented in the consolidated statement of activities includes revenue from tuition (net of certain scholarships and fellowships) and fees, grants and contracts, medical services, contributions for operating programs, the allocation of endowment spending for operations and other revenues. Operating expenses are reported on the consolidated statement of activities by natural classification.

The university's non-operating activity within the consolidated statement of activities includes contributions to endowment and to land, buildings and equipment that are not part of the university's operating activities, investment returns and other activities related to endowment, long-term benefit plan obligation funding changes, and student loan net assets.

c. Cash and Cash Equivalents

Cash and cash equivalents are recorded at cost, which approximates fair value, and include institutional money market funds and similar temporary investments with maturities of three months or less at the time of purchase. Cash and cash equivalents awaiting investment in the long-term investment pool are reported as investments and totaled $114.5 million and $477.2 million at June 30, 2017 and 2016, respectively. Cash and cash equivalents do not include cash balances held as collateral.

Supplemental disclosures of cash flow information include the following, in thousands of dollars:

	2017	2016
Cash paid during the year for:		
Interest	$ 127,473	$ 129,912
Noncash investing activities:		
Land, buildings and equipment purchases payable to vendor	$ 31,054	$ 12,509

d. Investments

Fair Value - The university's investments are recorded in the consolidated financial statements at fair value.

Fair value is a market-based measurement based on assumptions that market participants would use in pricing an asset or liability. As a basis for considering assumptions, a three-tier fair value hierarchy has been established which prioritizes the inputs used in measuring fair value. The hierarchy of inputs used to measure fair value and the primary methodologies used by the university to measure fair value include:

- *Level 1* – Quoted prices for identical assets and liabilities in active markets. Market price data is generally obtained from relevant exchange or dealer markets.
- *Level 2* – Inputs, other than the quoted prices in active markets, 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.
- *Level 3* – Unobservable inputs in which there is little or no market data, requiring the university to develop its own assumptions.

Assets and liabilities measured at fair value are determined based on the following valuation techniques:

- *Market approach* – Prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities; and
- *Income approach* – Techniques to convert future amounts to a single present amount based on market expectations, including present value techniques and option-pricing models.

The fair value of publicly traded fixed income and equity securities is based upon quoted market prices and exchange rates, if applicable. The fair value of direct real estate investments is determined from periodic valuations prepared by independent appraisers.

Investments are exposed to various risks, such as interest rate, market and credit risks. Due to the level of risk associated with certain investments, it is at least reasonably possible that changes in the values of investments will occur in the near term and that such changes could materially affect the amounts reported in the university's financial statements.

Derivatives - Derivative financial instruments in the investment portfolio include interest rate swaps, equity swaps, credit default swaps, commodity swap contracts, and currency forward contracts which are recorded at fair value with the resulting gain or loss recognized in the consolidated statement of activities.

Resell and Repurchase Agreements - Cash paid relating to resell agreements is generally collateralized by federal agency and foreign debt securities. The university takes possession of the underlying collateral and monitors the value of the underlying collateral to the amount due under the agreement. Cash received under repurchase agreements is collateralized by investments in asset backed securities, corporate debt, federal agency debt, and foreign debt securities. Collateral fair value is monitored to the amounts due under the agreements.

Management Fees - The university records the cost of managing its endowment portfolio as a decrease in non-operating activity within the applicable net asset class in the consolidated statement of activities. Management fees consist of the internal costs of the university's Investments Office (the "Investment Office"), outside custodian fees, and fees for external investment managers and general partners.

Total Return - The university invests its endowment portfolio and allocates the related earnings for expenditure in accordance with the total return concept. A distribution of endowment return that is independent of the cash yield and appreciation of investments earned during the year is provided for program support. The university has adopted an endowment spending policy designed specifically to stabilize annual spending levels and to preserve the real value of the endowment portfolio over time. The spending policy attempts to achieve these two objectives by using a long-term targeted spending rate combined with a smoothing rule, which adjusts spending gradually to changes in the endowment fair value. An administrative charge is assessed against the funds when distributed.

The university uses a long-term targeted spending rate of 5.25%. The spending amount is calculated using 80% of the previous year's spending and 20% of the targeted long-term spending rate applied to the fair value two years prior. The spending amount determined by the formula is adjusted for inflation and constrained so that the calculated rate is at least 4.0% and not more than 6.5% of the endowment's fair value. The actual rate of spending for 2017 and 2016, when measured against the previous year's June 30th endowment fair value, was 4.8% and 4.5%, respectively.

The university determines the expected return on endowment investments with the objective of producing a return exceeding the sum of inflation and the target spending rate. Asset allocation is the key factor driving expected return. Yale's asset allocation policy combines tested theory and informed market judgment to balance investment risks with the need for high returns. Both the need to provide resources for current operations and the desire to preserve the purchasing power of assets leads the endowment to be weighted toward equity.

The university manages the majority of its endowment in its Long Term Investment Pool (the "Pool"). The Pool is unitized and allows for efficient investment among a diverse group of funds with varying restricted purposes. In addition to university funds, the Pool includes assets of affiliated entities where the university has established investment management agreements.

e. Land, Buildings and Equipment

Land, buildings, and equipment are generally stated at cost. Buildings leased under capital leases are recorded at the lower of the net present value of the minimum lease payments or the fair value of the leased asset at the inception of the lease. Annual depreciation is calculated on a straight-line basis over useful lives, or over the lease term for capital leases, ranging from 15 to 50 years for buildings and improvements and 4 to 15 years for furnishings and equipment.

f. Other Assets

Other assets include insurance receivable, capitalized software costs, deferred expenses, and inventories. Capitalized software costs are amortized on a straight line basis over the estimated useful lives of the software, ranging from 5 to 10 years.

g. Collections

Collections at Yale include works of art, literary works, historical treasures, and artifacts that are maintained in the university's museums and libraries. These collections are protected and preserved for public exhibition, education, research, and the furtherance of public service. Collections are not capitalized; purchases of collection items are recorded as operating expenses in the university's consolidated statement of activities in the period in which the items are acquired.

h. Split-Interest Agreements

The university's split-interest agreements with donors consist primarily of charitable gift annuities, pooled income funds, and irrevocable charitable remainder trusts for which the university serves as trustee. Assets are invested and payments are made to donors and/or other beneficiaries in accordance with the respective agreements.

Contribution revenues for charitable gift annuities and charitable remainder trusts are recognized at the date the agreements are established. In addition, the fair value of the estimated future payments to be made to the beneficiaries under these agreements is recorded as a liability. For pooled income funds, contribution revenue is recognized upon establishment of the agreement at the fair value of the estimated future receipts, discounted for the estimated time period until culmination of the agreement.

i. Beneficial Interest in Trust Assets

The university is the beneficiary of certain perpetual trusts and charitable remainder trusts held and administered by others. The estimated fair values of trust assets are recognized as assets and as gift revenue when reported to the university.

j. Net Tuition, Room and Board

Tuition, room and board revenue is generated from an enrolled student population of approximately 12,500. Net tuition, room and board revenue from undergraduate enrollment represents approximately 61.3% of total net tuition, room and board revenue in 2017.

The university maintains a policy of offering qualified applicants admission to Yale College without regard to financial circumstance, as well as meeting in full the demonstrated financial need of those admitted. Student need in all programs throughout the university is generally fulfilled through a combination of scholarships and fellowships, loans and employment during the academic year. Tuition, room and board revenue has been reduced by certain scholarships and fellowships in the amounts of $283.1 million and $280.6 million in 2017 and 2016, respectively.

k. Contributions

Unconditional promises to give that are expected to be collected within one year are recorded at their net realizable value. Amounts expected to be collected in future years are recorded at the present value of estimated future cash flows, which includes estimates for potential uncollectible receivables. The discount on those contributions is computed using an interest rate that reflects fair value applicable to the year in which the promise is received. Amortization of the discount is included in contribution revenue. Conditional promises to give are not recorded as support until such time as the conditions are substantially met.

l. Grant and Contract Income

The university receives grant and contract income from governmental and private sources. In 2017 and 2016, grant and contract income received from the federal government totaled $567.1 million and $533.7 million, respectively. The university recognizes revenue associated with the direct costs of sponsored programs as the related qualified costs are incurred. Recovery of facilities and administrative costs of federally sponsored programs is at rates negotiated with the university's cognizant agency, the Department of Health and Human Services.

m. Medical Services Income

The university has agreements with third-party payers, including health maintenance organizations that provide payment for medical services at amounts different from standard rates established by the university. In 2017 and 2016, income from medical services totaled $404.0 million and $373.8 million for insurance companies, $128.2 million and $112.3 million for Medicare, and $48.0 million and $49.4 million for Medicaid, respectively. Medical services income is reported net of contractual allowances from third-party payers and others for services rendered, and further adjusted for estimates of uncollectible amounts.

n. Net Assets Released from Restrictions

Net assets released from restriction are based upon the satisfaction of the purpose for which the net assets were restricted or the completion of a time stipulation. Restricted operating activity including contributions and net investment return earned, which are restricted, are reported as temporarily restricted support and reclassified to unrestricted when any donor-imposed restrictions are satisfied. Non-operating restricted net assets associated with building costs are reclassified to unrestricted net assets when the capital asset is placed in service.

o. Self-Insurance

The university self-insures at varying levels for unemployment, disability, workers' compensation, property losses, certain healthcare plans, general and professional liability; and obtains coverage through a captive insurance company for medical malpractice and related general liability losses. Insurance is purchased to cover liabilities above self-insurance limits. Estimates of retained exposures are accrued.

p. Estimates

The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America ("GAAP") requires management to make estimates and judgments that affect the reported amounts of assets and liabilities and disclosures of contingencies at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period.

Significant estimates made by management include the valuation of alternative investments, the estimated net realizable value of receivables, estimated asset retirement obligations, liabilities under split-interest agreements, and the actuarially determined employee benefit and self-insurance liabilities. Actual results could differ from those estimates.

q. Recent Authoritative Pronouncements

On July 1, 2016, the university adopted new guidance regarding *Improving the Presentation of Net Periodic Pension Costs and Net Periodic Postretirement Benefit Cost*. This guidance requires the university to report the service cost component of net periodic benefit cost in the same line item or items as other compensation costs arising from services rendered by the pertinent employees during the period. The other components (interest cost, expected return on plan assets, amortization of prior service cost, and amortization of net loss) are required to be presented in the statement of activities separately from the service cost component and outside a subtotal of increases in net assets from operating activities. This change was applied retrospectively and it is reflected in the consolidated statement of activities, as well as in Note 11, for 2017 and 2016. As permitted by the new guidance, the university used the amounts disclosed in its prior year pension and postretirement plan footnote as an estimation basis for applying the retrospective presentation requirements. For 2016, approximately $20.6 million was reclassified from salaries and wages and employee benefits expenses to non-operating activity in the consolidated statement of activities.

The Financial Accounting Standards Board has issued standards that the university must consider for adoption over the next four years. Those standards include the following: (1) *Revenue from Contracts with Customers* effective for the fiscal year ending June 30, 2019, (2) *Presentation of Financial Statements for Not-for-Profit Entities* effective for the fiscal year ending June 30, 2019, and (3) *Leases* effective for the fiscal year ending June 30, 2021. Under *Revenue from Contracts with Customers*, recognition of revenue from customer contracts is a principles-based framework. *Presentation of Financial Statements for Not-for-Profit Entities* collapses the existing three-category classification of net assets into two categories: with donor restrictions and without donor restrictions. In addition, disclosures related to liquidity of investments are expanded. The *Leases* standard aims to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. The university is currently evaluating the impact of the adoption of these standards on its consolidated financial statements.

r. Summarized 2016 Financial Information

The 2017 consolidated financial statements include selected comparative summarized financial information for 2016. Such information does not include sufficient detail to constitute a presentation in conformity with GAAP. Accordingly, such information should be read in conjunction with the university's 2016 financial statements, from which the summarized financial information was derived. In addition, certain amounts have been reclassified to conform to the current year presentation.

2. Investments

The university endowment maintains a diversified investment portfolio with a strong orientation to equity investments and strategies designed to take advantage of market inefficiencies. The university's investment objectives are guided by its asset allocation policy and are achieved in partnership with external investment managers operating through a variety of investment vehicles, including separate accounts, limited partnerships and commingled funds. The university's heavy allocation to non-traditional asset classes, such as absolute return (hedge strategies), private equity (venture capital and leveraged buyouts), real estate, and natural resources (timber, energy and minerals), generates return potential and diversification in the portfolio.

The components of endowment and non-endowment investments, net of related liabilities at June 30 are presented below, in thousands of dollars:

	2017	2016
Endowment investments:		
Long term investment pool	$ 26,764,512	$ 24,961,935
Other	452,127	451,214
Total net endowment investments	27,216,639	25,413,149
Non-endowment investments:		
Long term investment pool	350,000	350,000
Bonds	452,120	552,296
Derivatives	(337,238)	(639,630)
Other	328,955	329,727
Total non-endowment investments	793,837	592,393
Net investments, at fair value	$ 28,010,476	$ 26,005,542

As described in Note 1d, investments are recorded at fair value. The following table summarizes the fair values of the university's investments by major type and related liabilities as of June 30, in thousands of dollars:

	Level 1	Level 2	Level 3	2017	2016
Investments, at fair value:					
Cash and cash equivalents	$ 534,184	$ -	$ -	$ 534,184	$ 672,829
Fixed income:					
US government securities	1,931,553	80,482	58	2,012,093	2,130,794
Foreign government securities	34,350	174,358	8,826	217,534	260,878
Corporate and other securities	47,188	2,089,536	317,076	2,453,800	2,827,752
Total fixed income	2,013,091	2,344,376	325,960	4,683,427	5,219,424
Common stock:					
Domestic	1,704,312	23,740	16,487	1,744,539	1,821,770
Foreign	1,822,149	83,126	102,044	2,007,319	1,502,217
Total common stock	3,526,461	106,866	118,531	3,751,858	3,323,987
Other equity investments:					
Foreign equity	-	-	-	-	383,376
Venture capital	-	-	115,075	115,075	84,849
Natural resources	-	-	256,235	256,235	199,943
Total other equity investments	-	-	371,310	371,310	668,168
Other investments	606,774	874,968	335,638	1,817,380	1,500,693
Total leveled investments	$ 6,680,510	$ 3,326,210	$ 1,151,439	11,158,159	11,385,101
Investments at net asset value				21,577,123	19,525,731
Total investments, at fair value				32,735,282	30,910,832
Liabilities associated with investments:					
Securities sold, not yet purchased	$ 523,892	$ 334,063	$ -	857,955	577,680
Repurchase agreements	-	882,678	-	882,678	1,166,542
Other liabilities	571,193	843,277	1,309,501	2,723,971	2,820,996
Total liabilities associated with investments	$ 1,095,085	$ 2,060,018	$ 1,309,501	4,464,604	4,565,218
Non-controlling interests				260,202	340,072
Net investments, at fair value				$ 28,010,476	$ 26,005,542

While not part of a leveling category, fair values for certain investments held are based on the net asset value ("NAV") of such investments as determined by the respective external investment managers, including general partners, if market values are not readily ascertainable. These valuations necessarily involve assumptions and methods that are reviewed by the Investments Office.

Investments at NAV as of June 30, in thousands of dollars, include:

	2017	2016
Absolute return	$ 5,055,020	$ 4,370,188
Domestic equity	905,622	691,275
Foreign equity	2,184,966	1,665,142
Leveraged buyout	4,019,098	3,849,172
Natural resources	1,484,315	1,239,119
Real estate	3,107,295	3,455,128
Venture capital	4,820,807	4,255,707
Total investments, at NAV	$ 21,577,123	$ 19,525,731

Assets and liabilities of investment companies that are controlled by the university are consolidated for reporting purposes. Certain consolidated subsidiaries are controlled but not wholly owned by the university. The portion of a consolidated entity's net assets that is not owned by the university is reported as a non-controlling interest.

The fair value of consolidated investment company assets and liabilities included in the university's financial statements, in thousands of dollars, include:

	2017	2016
Consolidated investment company assets	$ 5,311,031	$ 5,151,393
Consolidated investment company liabilities	2,255,348	2,452,116
	$ 3,055,683	$ 2,699,277

Level 3 investments are valued by the university or by its external investment managers using valuation techniques standard in the industry in which they operate. The Investments Office reviews these valuation methods and evaluates the appropriateness of these valuations each year. In certain circumstances, when the general partner does not provide a valuation or the valuation provided is not considered appropriate, the Investments Office will determine those values.

The following table summarizes quantitative inputs and assumptions used for Level 3 investments at June 30, 2017 for which fair value is based on unobservable inputs that are not developed by external investment managers. Significant increases or decreases in these unobservable inputs may result in significantly higher or lower valuation results.

Asset Class	Fair Value (in 000's)	Valuation Technique	Significant Unobservable Input	Range	Weighted Average
Equity Securities	$ 118,531	Market comparables	Enterprise value to EBITDA	3.0x - 9.0x	4.6x
			Multiple of revenue	0.9x - 5.0x	4x
		Discounted cash flow	Discount rate	15.0% - 18.0%	18.0%
		Dealer pricing	Indicative quotes	NA	NA
Fixed Income Securities	$ 325,960	Market comparables	Enterprise value to EBITDA	3.0x - 4.0x	3.5x
			Discount rate	11.0% - 30.0%	15.0%
		Liquidation model	Recovery rate-accounts receivable	1.0% - 85.0%	83.0%
			Liquidity probability	5.0% - 100.0%	75.0%
		Discounted cash flow	Discount rate	10.0% - 17.0%	14.0%
		Dealer pricing	Indicative quotes	NA	NA
Natural Resources	$ 256,235	Discounted cash flow	Discount rate	6.0% - 10.0%	8.0%
Trusts	$ 190,473	Net present value	Discount rate	3.25	3.25
Other Investments	$ 260,240	Option pricing model	Implied volatility	45.0% - 55.0%	50.0%
		Potential tax liability	Applicable tax rate	10.0% - 20.0%	10.0%
		Write-off	Recovery rate	0.0% - 90.0%	80.0%
		Dealer pricing	Indicative quotes	NA	NA
		Market comparables	Price per acre	$8,834.00 - $9,164.00	$9,000.00
Liabilities	$ (1,309,501)	Various methods	University pooled unit market value	3,420.05	3,420.05

The valuation process for investments at NAV and those categorized in Level 3 of the fair value hierarchy includes evaluating the operations and valuation procedures of external investment managers and the transparency of those processes through background and reference checks, attendance at investor meetings, and periodic site visits. In determining the fair value of investments, Investments Office staff reviews periodic investor reports, interim and annual audited financial statements received from external investment managers, and material quarter over quarter changes in valuation; and assesses the impact of macro market factors on the performance. The Investments Office meets with the Corporation's Investment Committee quarterly to review investment transactions and monitor performance of external investment managers.

Realized gains and losses are reported in total endowment return, net of fees. Included in net realized and unrealized gain (loss) in Level 3 reported below were unrealized losses of $114.9 million and $26.3 million that relate to assets held at June 30, 2017 and 2016, respectively.

The table below presents the change in fair value measurements for the university's Level 3 investments during the year ended June 30, in millions of dollars:

	Foreign Equity	Venture Capital	Natural Resources	Other	Liabilities	2017	2016
Beginning balance	$ 383	$ 85	$ 200	$ 850	$ (1,191)	$ 327	$ 479
Realized and unrealized gain (loss), net	-	(16)	(4)	(47)	(61)	(128)	16
Purchases	-	3	84	135	(54)	168	105
Sales	-	(2)	(2)	(101)	5	(100)	(132)
Transfers in	-	45	-	85	(12)	118	59
Transfers out	(383)	-	(22)	(142)	3	(544)	(200)
Ending balance	$ -	$ 115	$ 256	$ 780	$ (1,310)	$ (159)	$ 327

The transfers out of Level 3 consist primarily of investments reclassified from Level 3 to investments at NAV due to the use of the practical expedient for certain limited partnership investments.

Agreements with external investment managers include certain redemption terms and restrictions as noted in the following table:

Asset Class	Fair Value (in 000's)	Remaining Life	Unfunded Commitment (in 000's)	Redemption Terms	Redemption Restrictions
Absolute Return	$ 5,055,020	No Limit	$ 360,000	Redemption terms range from monthly with 30 days notice to annually with 90 days notice.	Lock-up provisions range from none to 5 years.
Domestic Equity	905,622	No Limit	35,000	Redemption terms range from monthly with 3 days notice to annually with 90 days notice.	Lock-up provisions range from none to 7 years.
Foreign Equity	2,184,966	No Limit	97,500	Redemption terms range from monthly with 15 days notice to closed end structures not available for redemption.	Lock-up provisions range from none to 7 years.
Leveraged Buyout	4,019,098	1-25 years	3,640,828	Closed end funds not eligible for redemption.	Not redeemable.
Venture Capital	4,935,882	1-25 years	1,226,450	Redemption terms range from 2 years with 3 years notice to closed end structures not available for redemption.	Not redeemable.
Real Estate	3,107,295	1-25 years	1,738,965	Closed end funds not eligible for redemption.	Not redeemable.
Natural Resources	1,740,550	1-35 years	496,752	Closed end funds not eligible for redemption.	Not redeemable.
Total	$21,948,433		$ 7,595,495		

The university has various sources of internal liquidity at its disposal, including cash, cash equivalents and marketable debt and equity securities. As of June 30, 2017, management estimates that it could have liquidated approximately $4.3 billion within 90 days (unaudited) to meet short-term needs.

The university enters into resell agreements (where securities are purchased under agreements to resell) and into repurchase agreements (where securities are sold under an agreement to repurchase). All resell agreements and repurchase agreements are carried at their contractual value which approximates fair value. Resell and repurchase agreements are presented gross in the university's consolidated statement of financial position as investment assets and liabilities associated with investments.

The table below illustrates the exposure for these financial instruments at June 30, 2017, in thousands of dollars, where enforceable netting agreements are in place:

	Assets	Liabilities
Resell and repurchase agreements	$ 500,321	882,678
Amounts contractually eligible for offset	(414,818)	(414,818)
Collateral	(27,989)	(467,860)
Net exposure for resell and repurchase agreements	$ 57,514	$ -

The fair value of fixed income securities of $750.1 million was provided at June 30, 2017 to collateralize securities sold, not yet purchased.

The university may employ derivatives and other strategies to (1) manage against market risks, (2) arbitrage mispricings of related securities, and (3) replicate long or short positions more cost effectively. The university does not invest in derivatives for speculation. The fair value of derivative positions held at June 30, 2017 and related gain (loss) for the year, in thousands of dollars, were as follows:

	Assets	Liabilities	Gain (Loss)
Endowment:			
Credit default swaps	$ 104,036	$ (109,132)	$ (66,854)
Interest rate swaps	21,476	(78,487)	20,875
Other	89,134	(35,079)	33,712
	214,646	(222,698)	(12,267)
Other:			
Interest rate swaps	13,716	(361,836)	254,905
Energy swaps	794	(2,875)	(2,875)
	14,510	(364,711)	252,030
Gross value of derivatives	229,156	(587,409)	$ 239,763
Other-counterparty netting	(140,849)	140,849	
Net collateral (received)/posted	(33,852)	421,311	
Total net exposure for derivatives	$ 54,455	$ (25,249)	

Derivatives are reported as other investments and other liabilities for fair value leveling purposes. The university initiates derivatives under legally enforceable master netting agreements. The net exposure for derivatives is presented above net of these master netting agreements and required collateral.

Credit default swaps

Credit default swaps are used to simulate long or short positions that are unavailable in the market or to reduce credit risk where exposure exists. The buyer of a credit default swap is obligated to pay to the seller a periodic stream of payments over the term of the contract in return for a contingent payment upon occurrence of a contracted credit event. As of June 30, 2017, the total notional amount of credit default swap contracts for buy protection amounts to $2.3 billion and the notional amount related to sell protection is $1.7 billion.

Interest rate swaps

Interest rate swaps are used to manage exposure to interest rate fluctuations. The notional amount of contracts that pay based on fixed rates and receive based on variable rates at June 30, 2017 were $3.1 billion. The notional amount of contracts that pay based on variable rates and receive based on fixed rates were $4.1 billion at June 30, 2017.

Energy swaps

Energy swaps are used in connection with settling planned purchases of energy consumption and adjusting market exposures.

Derivative assets are reported as investments in the consolidated statement of financial position and derivative liabilities are reported as liabilities associated with investments. Gains and losses on derivatives used for investing are reported as part of total endowment return and gains and losses related to university debt management and energy consumption are reported as other investment income (loss) in the consolidated statement of activities as non-operating activity.

Derivatives held by limited partnerships and commingled investment trusts in which Yale invests pose no off-balance sheet risk to the university due to the limited liability structure of the investments.

Certain investment transactions, including derivative financial instruments, necessarily involve counterparty credit exposure. Such exposure is monitored regularly by the university's Investments Office in accordance with established credit policies and other relevant criteria.

Endowment investments include beneficial interests in outside trusts of $150.3 million and $144.0 million at June 30, 2017 and 2016, respectively. Non-endowment investments include Connecticut Health and Educational Facilities Authority (“CHEFA”) proceeds available for approved construction and campus renovation projects of $0 million and $22.3 million at June 30, 2017 and June 30, 2016, respectively.

The following investments held under split-interest agreements are included in the endowment investment portfolio, in thousands of dollars:

	2017	2016
Charitable gift annuities	$ 208,804	$ 194,036
Charitable remainder trusts	107,913	108,626
Pooled income funds	10,384	10,878
	$ 327,101	$ 313,540

Split interest liabilities reported in the consolidated statement of financial position total $134.4 million and $129.3 million at June 30, 2017 and June 30, 2016, respectively, and are recorded at fair value using Level 2 measurements.

The university has agreements with certain affiliates to invest in the University Long Term Investment Pool. The obligation to these affiliates included in other liabilities within liabilities associated with investments is $1,421.8 million at June 30, 2017. The largest balance recorded is for Yale-New Haven Health System ("YNHHS") with $1,012.7 million invested at June 30, 2017.

A summary of the university's total investment return as reported in the consolidated statement of activities is presented below, in thousands of dollars:

		2017		2016
Investment income	$	333,445	$	542,272
Realized and unrealized gain, net of investment management fees		2,414,284		210,958
Total endowment return		2,747,729		753,230
Other investment income (loss)		328,311		(368,652)
	$	3,076,040	$	384,578

Endowment investment returns totaling $1,226.2 million and $1,153.4 million were allocated to operating activities in 2017 and 2016, respectively, using the spending policy described in Note 1d.

3. Accounts Receivable

Accounts receivable from the following sources were outstanding at June 30, in thousands of dollars:

		2017		2016
Medical services, net	$	99,097	$	94,169
Grant and contracts		63,825		73,939
Affiliated organizations		55,083		60,502
Publications		4,436		4,096
Other		18,128		22,158
		240,569		254,864
Less: Allowance for doubtful accounts		(34,465)		(31,004)
	$	206,104	$	223,860

Medical services receivables are net of contractual allowances and charity adjustments, of $105.2 million and $105.1 million at June 30, 2017 and 2016, respectively. Receivables, net of contractual adjustments, for medical services are primarily based on negotiated contracts with insurance companies (31%), Medicare (29%), Medicaid (10%), payments due directly from patients (20%) and commercial insurance and others (10%). The university assesses credit losses on all accounts receivable on a regular basis to determine the allowance for doubtful accounts.

The university and Yale-New Haven Hospital ("the Hospital") are parties to an affiliation agreement that establishes guidelines for the operation of activities between these two separate organizations. These guidelines set forth each organization's responsibility under the common goal of delivering comprehensive patient care services. The university provides professional services from faculty of the Yale School of Medicine and a variety of other administrative and clinical services. The net receivable from the Hospital amounted to $43.9 million and $49.3 million at June 30, 2017 and 2016, respectively. Balances are settled in the ordinary course of business. The university recognized $265.3

million in revenue and incurred $84.1 million in expenses related to activities with the Hospital during the period ended June 30, 2017.

4. Contributions Receivable

Contributions receivable consist of the following unconditional promises to give as of June 30, in thousands of dollars:

	2017	2016
Purpose:		
Endowment	$ 200,381	$ 213,518
Capital purposes	214,217	124,713
Operating programs	419,282	454,677
Gross unconditional promises to give	833,880	792,908
Less: Discount to present value	(141,289)	(149,409)
Allowance for uncollectible accounts	(74,826)	(75,553)
	$ 617,765	$ 567,946

	2017	2016
Amounts due in:		
Less than one year	$ 316,356	$ 211,864
One to five years	258,336	318,441
More than five years	259,188	262,603
	$ 833,880	$ 792,908

Discount rates used to calculate the present value of contributions receivable ranged from 0.33% to 7.0% at June 30, 2017 and 2016.

At June 30, 2017, the university had conditional pledges of approximately $126.3 million that depend on the occurrence of future and uncertain events. Conditional pledges are recognized when the condition is met.

5. Notes Receivable

Notes receivable at June 30, in thousands of dollars, include:

	2017	2016
Institutional student loans	$ 46,815	$ 50,114
Federally-sponsored student loans	31,899	33,684
Notes receivable	53,537	54,104
	132,251	137,902
Less: Allowance for doubtful accounts	(11,061)	(10,824)
	$ 121,190	$ 127,078

Student Loans

Institutional student loans include donor funds restricted for student loan purposes and university funds made available to meet demonstrated need in excess of all other sources of student loan borrowings. Interest accrues at fixed rates upon loan disbursement.

Management regularly assesses the adequacy of the allowance for credit losses for student loans 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 level of delinquent loans, and, where applicable, the existence of any guarantees or indemnifications. Federally-sponsored loans represent amounts due from current and former students under certain federal loan programs. Loans disbursed under these programs can be assigned to the federal government in certain non-repayment situations. In these situations, the federal portion of the loan balance is guaranteed. Federally-sponsored student loans have mandated interest rates and repayment terms subject to restrictions as to their transfer and disposition.

Amounts received from the federal government to fund a portion of the federally-sponsored student loans are ultimately refundable to the federal government and have been reported as advances from federal government for student loans in the consolidated statement of financial position. The recorded value of student loan instruments approximates fair value.

Notes Receivable

The university and the Hospital entered into an agreement under which the Hospital will reimburse the university over a 40-year term for advances made relating to the construction of Hospital facilities. The payment includes interest based on the 5-year Treasury bill plus 175 basis points, which resets every 5 years. In 2015, the interest rate was reset, and the monthly payment was adjusted accordingly.

6. Other Assets

Other assets at June 30, in thousands of dollars, include:

	2017	2016
Insurance receivable	$ 69,131	$ 55,163
Software costs, net of accumulated amortization	54,601	53,745
Deferred expenses	30,479	32,576
Inventories	14,774	15,907
	$ 168,985	$ 157,391

Amortization expense related to other assets included in operating expenses amounted to $15.8 million and $17.0 million in 2017 and 2016, respectively.

7. Land, Buildings and Equipment

Land, buildings and equipment at June 30, less accumulated depreciation, in thousands of dollars, are as follows:

		2017		2016
Land and real estate improvements	$	137,053	$	135,249
Buildings		6,249,094		5,891,011
Buildings under capital leases		50,058		50,058
Equipment		606,536		590,745
		7,042,741		6,667,063
Less: Accumulated depreciation and amortization		(2,708,478)		(2,495,654)
		4,334,263		4,171,409
Construction in progress		632,586		608,010
	$	4,966,849	$	4,779,419

Depreciation expense included in operating expenses amounted to $242.0 million and $237.1 million in 2017 and 2016, respectively. Amortization expense on capital lease assets amounted to $1.9 million and $2.1 million in 2017 and 2016, respectively.

8. Other Liabilities

Other liabilities consist of obligations of the university that will be paid over extended periods and consist of the following, in thousands of dollars:

		2017		2016
Employee benefit obligations	$	1,243,692	$	1,388,004
Compensated absences		64,837		64,321
Asset retirement obligations		39,100		39,100
Financial aid grant obligations		61,259		60,029
Other		122,419		80,070
	$	1,531,307	$	1,631,524

Included in employee benefit obligations are defined benefit plan liabilities in excess of plan assets. These liabilities amounted to $1,103.9 million at June 30, 2017 and $1,273.9 million at June 30, 2016 (see Note 11).

9. Bonds and Notes Payable

Bonds and notes payable outstanding at June 30, in thousands of dollars, include:

	Effective Interest Rate June 30, 2017	Calendar Year of Maturity	Outstanding Balance 2017	2016
CHEFA tax-exempt bonds:				
Series S	0.71%	2027	$ 135,865	$ 135,865
Series T	1.65%	2029	125,000	250,000
Series U	1.00%	2033	250,000	250,000
Series V	0.43%	2036	200,000	200,000
Series X	0.90%	2037	125,000	250,000
Series Z	-	2017	-	600,000
Series 2010A	2.76%	2025/2040/2049	529,975	529,975
Series 2013A	1.00%	2042	100,000	100,000
Series 2014A	0.80%	2048	250,000	250,000
Series 2015A	1.38%	2035	300,000	300,000
Series 2016A	1.62%	2042	399,320	-
Series 2017A	5.00%	2042	170,920	-
Series 2017B	5.00%	2029/2037	224,200	-
Total CHEFA bonds			2,810,280	2,865,840
Medium-term notes	7.38%	2096	125,000	125,000
Medium-term notes Series B	2.09%	2019	250,000	250,000
Commercial paper	0.74%	2017	181,445	181,445
Capital leases - buildings	5.75%	2032	41,090	42,424
U.S. Department of Energy	2.71%	2029	53,717	58,055
Other notes payable	7.85%	2020	1,404	1,758
Principal amount			3,462,936	3,524,522
Less: Bond issue costs			(14,224)	(13,037)
Plus: Unamortized premiums and discounts, net			65,987	22,187
			$ 3,514,699	$ 3,533,672

CHEFA Tax-Exempt Bonds

The university borrows at tax-exempt rates through CHEFA, a conduit issuer. CHEFA debt is a general unsecured obligation of the university. Although CHEFA is the issuer, the university is responsible for the repayment of the tax-exempt debt.

Series S bonds bear interest at a money market municipal rate and are outstanding for varying interest rate periods of 270 days or less and mature July 2027. The bonds may be converted from the money market mode to other variable rate modes or to a fixed rate mode at the discretion of the university.

Series T bonds consist of $125 million Series T-2 bonds maturing July 2029. In February 2017, the Series T-2 bonds were remarketed from an interest rate of 0.60% that expired in January 2017 to a fixed term rate of 1.65% through February 2020. In June 2017, $125 million in Series T-1 bonds bearing interest at a fixed rate of 4.70% and maturing July 2029, were defeased and redeemed by new Series 2017B (see Series 2017B below).

Series U bonds were remarketed in February 2016 from a variable rate to a fixed term rate of 1.00% through February 5, 2019. Series U bonds mature July 1, 2033.

Series V bonds bear interest at a daily rate and mature on July 1, 2036. The bonds may be converted from a daily rate period to other variable rate modes or to a fixed rate mode at the discretion of the university.

Series X bonds consist of $125 million Series X-2 bonds bearing interest at a fixed term rate of 0.90% through January 2018 and maturing July 1, 2037. In June 2017, $125 million in Series X-3 bonds, bearing interest at a fixed rate of 4.85% and maturing July 1, 2037, were defeased and redeemed by new Series 2017B (see Series 2017B below).

Series Z bonds were redeemed in July 2016, and defeased and redeemed in June 2017 through the issuance of Series 2016A and Series 2017A (see Series 2016A and Series 2017A below). At June 30, 2016, Series Z bonds consisted of 1) $400 million Series Z-1 bonds bearing interest at a fixed rate of 5%; 2) $100 million Series Z-2 bonds bearing interest at a fixed rate of 5.05%; and 3) $100 million Series Z-3 bonds bearing interest at a fixed rate of 5.05%. Series Z-1 bonds included a net premium of $10.7 million which was written off in July 2016.

Series 2010A bonds consist of 1) $80 million Series 2010A-1 bonds bearing interest at a fixed rate of 5.00% and maturing July 2025; 2) $150 million Series 2010A-2 bonds bearing interest at a fixed rate of 5.00% and maturing July 2040; 3) $150 million Series 2010A-3 bonds bearing interest at a fixed rate of 0.875% through February 2018 and maturing July 2049; and 4) $150 million Series 2010A-4 bonds bearing interest at a fixed rate of 1.20% through January 2019 and maturing July 2049. These bonds include a net premium of $11 million as of June 30, 2017. Series 2010A-1 and 2010A-2 bonds are subject to an optional redemption by the university starting July 2018.

Series 2013A bonds had an initial fixed interest rate of 1.35% through July 2016. In July 2016, they were remarketed to a new fixed rate of 1.00% through June 30, 2019. The bonds mature July 2042.

Series 2014A bonds bear interest at a fixed rate of 0.80% through the initial term period ending July 2017. In July 2017, they were remarketed to a new fixed rate of 1.3% through February 2020. The bonds mature in July 2048.

Series 2015A bonds were issued in July 2015 to redeem Series Y-1, Y-2, and Y-3, bear interest at a fixed term rate of 1.38% through July 10, 2018 and mature July 2035.

Series 2016A bonds were issued in July 2016 to redeem Series Z-1 bonds and consist of 1) $150 million Series 2016A-1 bearing a fixed interest rate of 1.00% through June 30, 2019; and 2) $249.3 million Series 2016A-2 bonds bearing a fixed rate of 2.00% through June 30, 2026. Both bond series mature July 2042.

Series 2017A bonds were issued in June 2017 to refund Series Z-2 and Series Z-3 and consist of 1) $85.5 million Series 2017A-1 bonds and 2) $85.5 million Series 2017A-2 bonds. Both bond series mature July 2042 and bear interest at a fixed rate of 5.00% through June 30, 2022. These bonds include a net premium of $29.1 million as of June 30, 2017.

Series 2017B bonds were issued in June 2017 to refund T-1 and Series X-3 and consist of 1) $112.1 million Series 2017B-1 bonds maturing July 2029 and 2) $112.1 million Series 2017B-2 bonds maturing July 2037. Both bond series bear interest at a fixed rate of 5.00% through June 30, 2020. These bonds include a net premium of $25.8 million as of June 30, 2017.

Notes Payable

Medium-term notes bear interest at a fixed rate of 7.38% and mature in 2096, with an optional redemption provision in the year 2026. The discount associated with these notes was $303 thousand at June 30, 2017.

Medium-term notes Series B bear interest at a fixed rate of 2.09% and mature in April 2019.

Commercial paper consists of notes issued in the short-term taxable market and is sold at a discount from par. The maturities of individual notes are issued in ranges from one day to no more than one year, and fall on average in a range of thirty to sixty days.

Certain lease agreements entered into by the university qualify as capital leases with obligations of $41.1 million and $42.4 million at June 30, 2017 and 2016, respectively. The agreements call for the university to lease the buildings through 2032.

The university financed a wind energy project, Record Hill Wind, LLC, through a financing arrangement with the U.S. Department of Energy. The financing arrangement is non-recourse debt to the university and bears interest at rates ranging from 2.24% to 2.78%.

Scheduled maturities of the debt obligations, in thousands of dollars, are as follows:

2018	$	187,087
2019		255,817
2020		7,044
2021		6,914
2022		6,927
Thereafter		2,999,147

Certain CHEFA Series are subject to tender by bondholders. To the extent all bonds subject to tender could not be remarketed, $2.2 billion of bonds scheduled for maturity between 2029 and 2049 would be due when tendered.

Total interest expense incurred on indebtedness was $57.6 million and $73.5 million in 2017 and 2016, respectively. Interest capitalized to land, buildings and equipment totaled $6.5 million and $3.2 million in 2017 and 2016, respectively. Amortization expense related to bond issue costs included in operating expenses amounted to $2.0 million and $1.4 million in 2017 and 2016, respectively.

10. Retirement Plans – Defined Contribution

The university maintains defined contribution plans for faculty and certain staff employees. Participants may direct employee and employer contributions to the Teachers' Insurance and Annuity Association ("TIAA") and College Retirement Equities Fund ("CREF"), as well as other investment options. Retirement expense for this plan was $109.2 million and $103.5 million in 2017 and 2016, respectively.

11. Pension and Postretirement Plans – Defined Benefit

The university has a noncontributory, defined benefit pension plan for staff. The staff pension plan provides payments based on the employee's earnings and years of participation.

In addition, the university provides postretirement benefits including health benefits based on years of service, life insurance, and a pay-out of unused sick time. While the university's subsidy of the cost of comprehensive health care benefits differs among retiree groups, substantially all employees who meet minimum age and service requirements and retire from the university are eligible for these benefits. Non faculty employees are paid 50% of unused sick time and receive life insurance benefits upon retirement from active status.

The university uses a June 30th measurement date for its defined benefit plans.

The following table sets forth the pension and postretirement plans' funded status that is reported in the consolidated statement of financial position at June 30, in thousands of dollars:

	Pension		Postretirement	
	2017	2016	2017	2016
Change in benefit obligation:				
Benefit obligation, beginning of year	$ 1,659,645	$ 1,370,606	$ 1,214,141	$ 1,040,723
Service cost, excluding assumed administrative expenses	61,937	50,569	54,064	45,171
Interest cost	64,794	64,788	47,262	48,288
Benefit payments	(45,190)	(43,165)	(26,348)	(27,483)
Assumption changes	(34,527)	194,724	(79,419)	157,306
Actuarial (gain) loss	(7,248)	22,123	(13,180)	(49,864)
Benefit obligation, end of year	$ 1,699,411	$ 1,659,645	$ 1,196,520	$ 1,214,141
Change in plan assets:				
Fair value, beginning of year	$ 1,167,334	$ 1,110,000	$ 432,540	$ 448,906
Actual return on plan assets	148,223	15,033	54,528	8,396
University contributions	61,175	87,729	3,413	3,852
Benefits and expenses paid	(47,690)	(45,428)	(27,454)	(28,614)
Fair value, end of year	$ 1,329,042	$ 1,167,334	$ 463,027	$ 432,540
Funded Status	$ (370,369)	$ (492,311)	$ (733,493)	$ (781,601)

Benefit Obligation

The benefit obligation represents the actuarial present value of future payments to plan participants for services rendered prior to that date, based on the pension benefit formula. In calculating the value, the participants' compensation levels are projected to retirement.

The accumulated benefit obligation differs from the benefit obligation above in that it does not consider assumptions about future compensation levels. It represents the actuarial present value of future payments to plan participants using current and past compensation levels. The accumulated benefit obligation for the pension plan was $1,441.4 million and $1,394.8 million at June 30, 2017 and June 30, 2016, respectively.

There were no significant plan amendments during the fiscal year ended June 30, 2017.

Assumptions used in determining the year end obligation of the pension and postretirement plans are:

	2017	2016
Weighted-average discount rate - all plans except unused sick pay plan	4.00%	4.00%
Weighted-average discount rate - unused sick pay plan	3.50%	3.20%
Increase in future compensation levels	3.28%	3.75%
Projected health care cost trend rate (pre-65/post-65)	7.30% / 6.48%	6.75% / 6.45%
Ultimate trend rate (pre-65/post-65)	4.50% / 4.27%	5.00% / 5.00%
Year ultimate trend rate is achieved	2028	2024
Mortality	RP2014 Aggregate, Scale MP2014	RP2014 Aggregate, Scale MP2014

The health care cost trend rate assumption has a significant effect on the amounts reported. For the fiscal year ended June 30, 2017, a one percent change in the health care cost trend rate would affect 2017 as follows, in thousands of dollars:

	One percent Increase	One percent Decrease
Effect on 2017 postretirement service and interest cost	$ 27,700	$ (19,500)
Effect on postretirement benefit obligation at June 30, 2017	229,700	(165,000)

Changes in assumptions during the year resulted in a decrease to the pension benefit obligation and a decrease to the postretirement benefit obligation at June 30, 2017, as follows, in thousands of dollars:

	Pension	Postretirement	Total
Inflation	$ (34,527)	$ (78,273)	$ (112,800)
Discount rate	-	(1,146)	(1,146)
	$ (34,527)	$ (79,419)	$ (113,946)

Net Periodic Benefit Cost

Net periodic benefit cost for the plans includes the following components, in thousands of dollars:

	Pension		Postretirement	
	2017	2016	2017	2016
Service cost	$ 61,937	$ 50,569	$ 54,064	$ 45,171
Administrative expenses	2,300	2,200	1,100	1,000
Interest cost	64,794	64,788	47,262	48,288
Expected return on plan assets	(93,258)	(83,739)	(32,440)	(31,847)
Net amortization:				
Prior service cost	3,572	10,200	50	1,191
Net loss	16,027	1,273	15,530	10,402
Net periodic benefit cost	$ 55,372	$ 45,291	$ 85,566	$ 74,205

The service cost component of net periodic benefit cost is included in employee benefits as a part of operating expenses in the consolidated statement of activities. The components of net periodic benefit cost, other than service cost, are included in other increases (decreases), which is reported as non-operating activity in the consolidated statement of activities.

Assumptions used in determining the net periodic benefit cost of the pension and postretirement plans are:

	2017	2016
Weighted-average discount rate	4.00%	4.75%
Expected long-term rate of return	7.75%	7.75%
Compensation increase	3.75%	3.77%
Health care cost increase (pre-65/post-65)	6.75% / 6.45%	7.00% / 5.40%
Ultimate trend rate (pre-65/post-65)	5.00% / 5.00%	5.00% / 5.00%
Year ultimate trend rate is achieved	2024	2024
Mortality	RP2014 Aggregate, Scale MP2014	RP2014 Aggregate, Scale MP2014

The funded status consists of the cumulative unfunded net periodic benefit cost and the cumulative change in funding status of defined benefit plans. The components of the change in funding status of defined benefit plans, which is reported in non-operating results, for the year ended June 30, 2017, in thousands of dollars, include:

	Pension	Postretirement	Total
Unrecognized net actuarial loss	$ (96,540)	$ (114,681)	$ (211,221)
Amortization of unrecognized obligation	(19,598)	(15,580)	(35,178)
	$ (116,138)	$ (130,261)	$ (246,399)

The cumulative amounts of these adjustments reported as deductions to net assets in the consolidated statement of financial position at June 30, 2017, in thousands of dollars, include:

		Pension		Postretirement		Total
Unrecognized net actuarial loss	$	271,923	$	230,620	$	502,543
Unrecognized prior service cost		20,731		71		20,802
	$	292,654	$	230,691	$	523,345

Amounts recorded as an adjustment at June 30, 2017 that are expected to be amortized into non-operating activity during fiscal year 2018, in thousands of dollars, include:

		Pension		Postretirement		Total
Net actuarial loss	$	10,000	$	8,281	$	18,281
Prior service cost		3,343		50		3,393
	$	13,343	$	8,331	$	21,674

Actuarial gains or losses and prior service costs resulting from plan amendments are amortized over the average remaining years of service of active participants.

Plan Assets

The defined benefit plan assets are valued utilizing the same fair value hierarchy as the university's investments as described in Note 1d.

The following table summarizes the fair values of investments by major type held by the staff pension plan at June 30, in thousands of dollars:

		Level 1		Level 2		Level 3		2017		2016
Investments, at fair value:										
Cash and cash equivalents	$	37,878	$	-	$	-	$	37,878	$	37,943
US government securities		104,423		-		-		104,423		82,507
Equity investments:										
Domestic		27,973		-		-		27,973		46,470
Foreign		1,219		45,963		-		47,182		45,215
Total equity investments		29,192		45,963		-		75,155		91,685
Limited partnerships:										
Natural resources		-		-		13,357		13,357		7,021
Total limited partnerships		-		-		13,357		13,357		7,021
Total leveled investments	$	171,493	$	45,963	$	13,357		230,813		219,156
Investments at NAV								1,098,404		963,271
Total investments, at fair value								1,329,217		1,182,427
Liabilities associated with investments	$	45	$	130	$	-		175		15,093
Net investments, at fair value							$	1,329,042	$	1,167,334

The following table summarizes the fair values of investments by major type held by the retiree health plan at June 30, in thousands of dollars:

	Level 1	Level 2	Level 3	2017	2016
Investments, at fair value:					
Cash and cash equivalents	$ 29,646	$ -	$ -	$ 29,646	$ 7,725
US government securities	22,451	-	-	22,451	11,225
Equity investments:					
Domestic	5,451	-	-	5,451	5,572
Foreign	498	14,397	-	14,895	17,856
Total equity investments	5,949	14,397	-	20,346	23,428
Limited partnerships:					
Natural resources	-	-	2,792	2,792	3,438
Total limited partnerships	-	-	2,792	2,792	3,438
Total leveled investments	$ 58,046	$ 14,397	$ 2,792	75,235	45,816
Investments at NAV				399,531	390,354
Total investments, at fair value				474,766	436,170
Liabilities associated with investments	$ 9,863	$ 63	$ -	9,926	124
Net investments, at fair value				$ 464,840	$ 436,046

The table below represents the change in fair value measurements for Level 3 investments held by the staff pension plan and the retiree health plan for the plans' year ended June 30, 2017, in thousands of dollars:

	Pension	Retiree Health
Beginning balance	$ 7,810	$ 3,438
Unrealized gain (loss)	120	(578)
Purchases	6,300	-
Sales	(84)	(68)
Transfer out	(789)	-
Ending balance	$ 13,357	$ 2,792

The investment objective for the pension and retiree health plans seeks a positive long-term total return after inflation to meet the university's current and future plan obligations.

Asset allocations for both plans combine tested theory and informed market judgment to balance investment risks with the need for high returns.

Plan asset allocations by category at June 30 are as follows:

	Pension		Retiree Health	
	2017	2016	2017	2016
Absolute return	27.1%	27.5%	24.8%	26.6%
Domestic equity	9.3%	9.1%	8.1%	8.5%
Fixed income	7.9%	7.1%	4.8%	2.6%
Foreign equity	23.0%	23.2%	20.2%	20.4%
Leveraged buyouts	7.1%	7.5%	8.8%	9.0%
Venture capital	9.9%	7.7%	10.2%	9.3%
Real estate	6.7%	8.4%	11.1%	13.6%
Natural resources	6.6%	7.6%	6.1%	7.3%
Cash	2.4%	1.9%	5.9%	2.7%

The pension and retiree health long-term rate of return assumption is determined by adding expected inflation to expected long-term real returns of various asset classes, considering expected volatility and correlation between the returns of various asset classes.

Contributions

Annual contributions for the pension and retiree health plans are determined by the university considering calculations prepared by the plans' actuary as well as other factors. Expected contributions on an accrual basis to the pension plan in fiscal 2018 are $90.8 million. No contribution is planned to the retiree health plan.

Benefit Payments

The following estimated benefit payments, which reflect expected future service, are expected to be paid out of the plans, in thousands of dollars:

Fiscal year	Pension	Postretirement	Total
2018	$ 53,198	$ 32,000	$ 85,198
2019	56,890	34,800	91,690
2020	60,646	38,000	98,646
2021	64,678	41,900	106,578
2022	69,221	45,400	114,621
2023-2027	413,427	278,000	691,427
	$ 718,060	$ 470,100	$ 1,188,160

12. Net Assets

The university's net assets as of June 30, in thousands of dollars, includes:

	2017	2016
Permanently Restricted:		
Endowment funds	$ 3,858,255	$ 3,622,688
Student loan funds	42,996	42,123
Total permanently restricted	3,901,251	3,664,811
Temporarily Restricted:		
Endowment funds	19,212,980	17,965,741
Capital	561,570	420,923
Operating funds	477,022	469,693
Total temporarily restricted	20,251,572	18,856,357
Unrestricted:		
Yale University	4,573,133	3,677,192
Non-controlling interest	260,202	340,072
Total unrestricted	4,833,335	4,017,264
Total net assets	$ 28,986,158	$ 26,538,432

Yale's endowment consists of approximately 7,400 funds established for a variety of purposes.

The endowment includes both donor-restricted endowment funds and funds designated by the Corporation to function as endowments. The university endowment fund composition by fund type as of June 30, in thousands of dollars, includes:

	Unrestricted	Temporarily Restricted	Permanently Restricted	2017	2016
Donor-restricted endowment	$ -	$ 18,917,850	$ 3,858,255	$ 22,776,105	$ 21,318,170
Board-designated endowment	4,104,806	295,130	-	4,399,936	4,092,076
	$ 4,104,806	$ 19,212,980	$ 3,858,255	$ 27,176,041	$ 25,410,246

Changes in endowment net assets for the fiscal year ended June 30, in thousands of dollars, were:

	Unrestricted	Temporarily Restricted	Permanently Restricted	2017	2016
Endowment net assets, beginning of year	$ 3,821,817	$ 17,965,741	$ 3,622,688	$ 25,410,246	$ 25,571,590
Investment return:					
Investment income	54,848	277,652	945	333,445	542,272
Net appreciation	401,352	2,006,015	6,917	2,414,284	210,958
Total investment return	456,200	2,283,667	7,862	2,747,729	753,230
Contributions	16	14,906	189,327	204,249	182,188
Allocation of endowment spending	(203,358)	(1,024,590)	1,118	(1,226,830)	(1,153,985)
Other increases (decreases)	30,131	(26,744)	37,260	40,647	57,223
Endowment net assets, end of year	$ 4,104,806	$ 19,212,980	$ 3,858,255	$ 27,176,041	$ 25,410,246

13. Functional Classification of Operating Expenses

Operating expenses reported by functional categories, include allocations of costs for operation and maintenance of plant, interest on indebtedness and depreciation expense. Operating expenses by functional classification for the years ended June 30, 2017 and 2016, in thousands of dollars, were as follows:

		2017		2016
Instruction and departmental research	$	941,216	$	917,740
Patient care and other related services		852,975		790,889
Organized research		564,774		525,367
Student services		410,496		414,151
Libraries and other academic support		318,230		308,212
Administration and other institutional support		250,048		244,364
Public services		142,781		142,927
Total expenses	$	3,480,520	$	3,343,650

14. Commitments and Contingencies

The university is involved in various legal actions arising in the normal course of activities and is also subject to periodic audits and inquiries by various regulatory agencies. Although the ultimate outcome is not determinable at this time, management, after taking into consideration advice of legal counsel, believes that the resolution of these pending matters should not have a material adverse effect upon the university's financial position.

Minimum lease commitments at June 30, 2017, under agreements to lease space, in thousands of dollars, are as follows:

		Operating Lease Payments		Capital Lease Payments
2018	$	10,609	$	9,086
2019		9,442		9,144
2020		9,051		9,122
2021		7,049		8,969
2022		6,388		8,931
Thereafter		33,708		91,729
		76,247		136,981
Executory costs		-		(73,870)
Interest on capital leases		-		(22,021)
	$	76,247	$	41,090

The university has outstanding commitments on contracts to construct campus facilities in the amount of $431.2 million at June 30, 2017. Funding for these projects is expected to come from capital replacement reserves and gifts.

15. Subsequent Events

Management has evaluated subsequent events for the period after June 30, 2017, through October 23, 2017, the date the consolidated financial statements were issued.

The President and Fellows of Yale University

The Officers of Yale University

In November 2016, Yale's newest mascot, Handsome Dan XVIII was introduced. Handsome Dan XVIII is an Olde English Bulldogge born on September 23, 2016, and comes from a breeder in Maine. His real name is Walter, named after Walter Camp — the "Father of American Football". Yale athletics conducted a national search for the next mascot after the passing of Sherman (Handsome Dan XVII), a familiar figure on the sidelines at games, serving as mascot for more than nine years.

Aware of current breeding concerns of English bulldogs, Chris Getman '64, the caretaker of four Yale mascots, recommended looking for an Olde English Bulldogge — a larger, stronger, and healthier version of the breed that got its name herding bulls. The new keeper of the mascot is Kevin Discepolo '09, Yale's assistant director of facilities, operations and events. Yale fans are able to follow Walter on Instagram @HandsomeDanXVIII and Twitter @HandsomeDan18.

The history of Handsome Dan dates to 1889, when Andrew Graves '92S, a football player and rower during the days of Walter Camp, first named Yale's mascot. The Bulldog tradition began in 1890, when Harper, a champion English bulldog, was brought to football games to inspire the athletes.

Handsome Dan XVIII was photographed by breeder, Jessica Seiders of Wicked Good Bulldogges.

Front cover

All photography by Michael Marsland, University Photographer, unless otherwise noted below.

Highlights from the fiscal year ended June 30, 2017, from left to right, include the following:

First Row: (1) A new chemistry lab at Sterling Chemistry Laboratory – The 93-year-old Sterling Chemistry Laboratory has been transformed and a grand reopening was celebrated on August 30, 2016. (2) Researchers returned to the reading room of Yale's Beinecke Rare Book & Manuscript Library on September 6, 2016 following a 16-month renovation. (3) The "Citations", an a capella group from the Graduate School of Arts and Sciences, provided musical entertainment on October 5, 2016 when the Yale community celebrated the annual Founders Day.

Second Row: (1) Gems and minerals on view in David Friend Hall, which opened on October 23, 2016 at the Yale Peabody Museum of Natural History. This 30 million-year-old sandstone concretion from Fontainebleau, France has never been on display in public. It is from the collection of David Friend '69. *Photograph by Robert Lorenz.* (2) Yale students and faculty, policymakers, and members of the New Haven community celebrated the opening of The Policy Lab at the Institution for Social and Policy Studies on January 23, 2017. The Policy Lab is a student-focused university-community partnership designed to help improve local policy initiatives and make New Haven a national model of research-community partnerships.

Third Row: (1) Yale's Center for Teaching and Learning (CTL) celebrated its grand opening on January 27, 2017 in 24,000 square feet of renovated space in Sterling Memorial Library. The capital improvement project resulted in 20-plus rooms or areas designed for collaborative meetings, classes, workshops and one-to-one or small group tutoring; and serves as a unified space dedicated to advancing the University's teaching and learning mission. (2) The Adams Center for Musical Arts (the Center) opened to students, faculty, and staff on February 17, 2017 following a major construction and renovation project which began on Hendrie Hall. The continued generosity of Stephen '59BA and Denise Adams made the Center a reality. The orchestra rehearsal room features acoustic cloud panels. The Center has state-of-the art digital technology and carefully engineered acoustics. *Photograph by Matthew Fried.* (3) At noon on March 17, 2017 medical students across the country open an envelope to discover where they will continue their education. Eighty-six students at the School of Medicine were matched to residencies. Internal medicine was the most popular choice at 17 students, Massachusetts was the most popular destination at 24, and 23 students chose to stay in New Haven. *Photograph by John Curtis.*

Fourth Row: (1) Yale marked the centennial of the United States' entry into World War I on April 6, 2017 with a ceremony at Woolsey Hall. Cadet Alex Tymchenko '17, Air Force ROTC, and Midshipman Forrest Simpson '19, Naval ROTC, during the presentation of the memorial wreath. (2) The Hindu festival of Holi celebrates the turn of winter into spring and the triumph of good over evil. It is also a time of mischief, when celebrants douse each other with brightly colored poster paint. Holi festivities, sponsored by the Yale Chaplain's Office, took place on April 28, 2017 on the lawn in front of Baker Hall.

Fifth Row: (1) Yale celebrated the opening of the newly renovated Wright Lab on May 18, 2017. Among other items, the program included "Science Bites" a series of short presentations by faculty about their research being conducted in the new space. (2) Yale undergraduate and graduate students were awarded degrees at the university-wide 316th Commencement ceremony on May 22, 2017. Eight individuals who have achieved distinction in their respective fields were awarded honorary degrees. Pictured is Stevie Wonder. (3) The joint military commissioning ceremony honoring the graduates of ROTC at Yale was held at Battell Chapel on May 22, 2017. General Michael V. Hayden, United States Air Force, retired, gave the commissioning address.

Sixth Row: (1) Just six days after winning a national championship, Yale's heavyweight rowing team beat archrival Harvard in the 152nd edition of America's oldest intercollegiate athletics event, the Yale-Harvard Regatta on the Thames River on June 10, 2017. *Photograph by Stephen Fritzer.* (2) A view of the construction site of the new residential colleges on June 15, 2017. The colleges are the first additions to the residential college system since 1961. The residential colleges are at the heart of Yale undergraduate life.

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