2016

The Yale Endowment

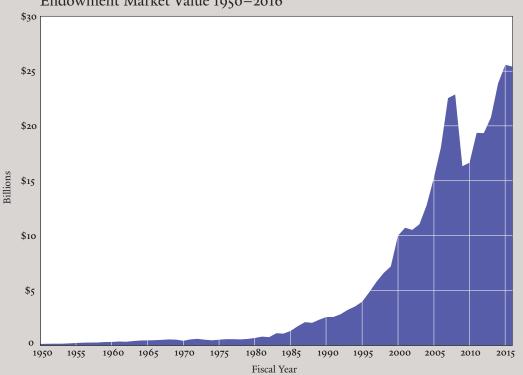


Endowment Highlights

Tr 1	T 7
Fiscal	Vent
TISCAL	I Lai

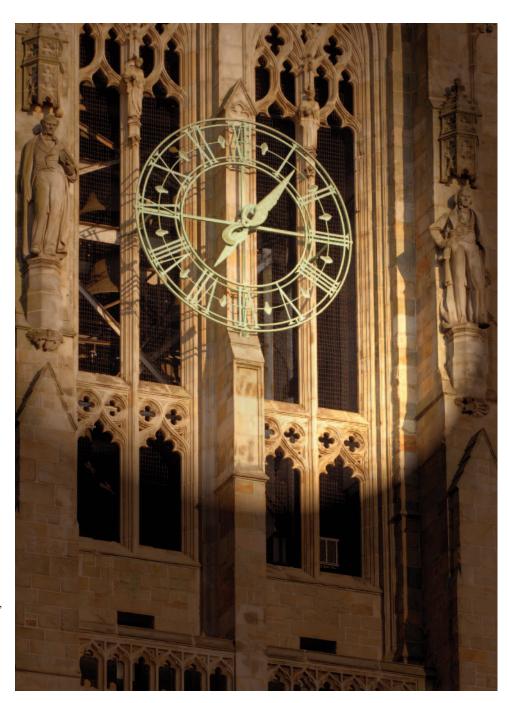
	2016	2015	2014	2013	2012
Market Value (in millions) Return	\$25,408.6 3.4%	\$25,572.1 11.5%	\$23,894.8 20.2%	\$20,780.0 12.5%	\$19,344.6 4.7%
Spending (in millions) Operating Budget Revenues (in millions)	\$1,152.8 \$3,472.4	\$1,082.5 \$3,297.7	\$ 1,041.5 \$3,116.1	\$ 1,024.0 \$2,968.6	\$ 994.2 \$2,847.8
Endowment Percentage	33.2%	32.8%	33.4%	34.5%	34.9%
Asset Allocation (as of June 30)					
Absolute Return	22.1%	20.5%	17.4%	17.8%	14.5%
Domestic Equity	4.0	3.9	3.9	5.9	5.8
Fixed Income	4.9	4.9	4.9	4.9	3.9
Foreign Equity	14.9	14.7	11.5	9.8	7.8
Leveraged Buyouts	14.7	16.2	19.3	21.9	
3.T 1.D			- 7.3		24.3
Natural Resources	7.9	6.7	8.2	7.9	24.3 8.3
Real Estate			, ·		
	7.9	6.7	8.2	7.9	8.3

Endowment Market Value 1950–2016



Contents

1.	Introduction	2
2.	The Yale Endowment	6
3.	Investment Policy	7
4.	Spending Policy	16
5.	Investment Performance	19
6.	Management and Oversight	21



Front cover: Stairway in the Yale University Art Gallery's older wing, designed by Egerton Swartwout (B.A. 1891) and dating to 1926.

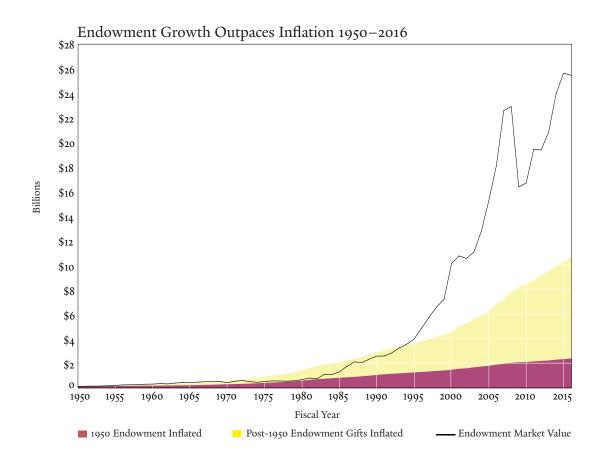
Right:
The Harkness Tower clock. Designed by James Gamble Rogers (B.A. 1889) and built between 1917 and 1921, the tower is 216 feet high.

Introduction

1

Yale's Endowment generated a 3.4% return in fiscal 2016, a year in which many endowments posted negative returns. Over the past ten years, the Endowment grew from \$18.0 billion to \$25.4 billion. With annual returns of 8.1%, the Endowment's performance exceeded its benchmark and outpaced institutional fund indices. For eight of the past ten years, Yale's ten-year record ranked first in the Cambridge Associates universe.

Spending from the Endowment grew during the last decade from \$616 million to \$1.2 billion, an annual growth rate of 6.5%. Next year, spending will amount to \$1.2 billion, or 34% of projected revenues. Yale's spending and investment policies provide substantial levels of cash flow to the operating budget for current scholars, while preserving Endowment purchasing power for future generations.



Financial Aid at Yale

Yale believes that a college education should be open to all students, not just those who can afford the full cost of attendance. In 1964, Yale was the first private research university in America to adopt a need-blind admissions policy for undergraduates, backed by a promise to meet their full demonstrated need for financial aid. In 2001, Yale expanded this policy to international students; today it is one of just five American universities offering global need-blind admissions. By admitting students based on ability – not ability to pay – and by meeting the full financial need of all admitted students (with no loans required), the University ensures that a Yale College education is accessible to the most talented people from around the world, regardless of their family's income.

The Endowment is a critical contributor to Yale's generous financial

aid policies, ensuring that the University remains accessible to students from all backgrounds. In fiscal 2016, Yale provided \$367 million in financial aid—including \$122 million for Yale College students—with 49% coming from Endowment funds restricted or designated for financial aid, 14% from other restricted funds such as grants and spendable gifts, and the balance from unrestricted University funds, including unrestricted Endowment funds.

The magnitude and impact of student aid at Yale are impressive. For more than fifty years, the University has been committed to ensuring that cost and ability to pay are not barriers for any student who wishes to attend Yale College. As a result, Yale's financial aid policies are among the most robust of all U.S. colleges and universities. In meeting 100% of students' demonstrated financial need, Yale is

joined by just 6% of colleges and universities, according to *U.S. News*.

In fact, Yale's commitment to meeting the full demonstrated financial need of every undergraduate student for all four years of attendance makes it one of the most affordable colleges in the country. No parent with an income under \$65,000 (which is above the U.S. median family income), with typical assets, is asked to make a contribution toward their child's Yale College education. For families earning between \$65,000 and \$200,000 (and sometimes beyond), with typical assets, contributions are determined as a percentage of annual income, on a sliding scale that begins at 1% and moves toward 25%. During the 2015-2016 academic year, 50% of Yale College students received financial aid, with an average grant of \$45,000. The median annual net cost of tuition, room and board,



The 2015 Yale University Commencement on Old Campus. A total of 4,309 degrees were awarded at the ceremony.

books, and personal expenses for students receiving financial aid in the 2015–2016 academic year was just \$12,525.

Robust admissions and financial aid policies place Yale students at an advantage relative to their peers. Eighty-five percent of Yale undergraduates graduated debt-free in 2016, and the average debt of those who did borrow totaled just \$13,625. In contrast, only 32% of students from all public and private non-profit colleges graduated debt-free in 2015 (the most recent data available) and the average debt of those who borrowed totaled

\$30,100, according to the Institute for College Access and Success. Yale's four-year graduation rate of 90% and its six-year graduation rate of 98% are in the 99th and 100th percentiles, respectively, among 1,180 four-year, private, non-profit colleges and universities surveyed by *The Chronicle of Higher Education*.

Recently, Yale has focused on expanding support for low-income and first-generation students. In an effort to reach low-income students who may not have considered applying to Yale because of a misperception regarding affordability, the University launched educational and outreach campaigns to inform low-income families about the net cost of a Yale College education. Applications from targeted students have increased 15% over the past three years, far outpacing the overall growth in applications. An important part of Yale's outreach effort is its partnership with QuestBridge, a national non-profit organization that assists high-achieving low-income students applying to selective colleges: the number of QuestBridge finalists matriculating at Yale increased from an average of 50 in the first several years of the partnership to 88 in the class of 2019 and 86 in the class of 2020. In December 2016, Yale announced a partnership with the American Talent Initiative, a new collaboration that seeks to increase the number of low-income students at top schools by 2025. A record high of 15% of students in the class of 2020 are expected to be the first in their families to graduate from a four-year college or university, up from 12% in the class of 2017. In another measure of breadth of access, 18% of the U.S. citizens and permanent residents in the freshman class are eligible for federal Pell grants for low-income students, a substantial increase from the 13% in the senior class.

Beyond support of undergraduates, Yale is committed to providing generously for its graduate and professional students. In the Graduate School of Arts and Sciences, doctoral students make up the overwhelming majority (93%) of the student body. Yale provides all doctoral students with a full financial aid package – approximately \$335,000 over a typical six-year course of study - covering tuition, health care, and an annual living stipend of nearly \$30,000. Furthermore, Yale's professional schools offer substantial amounts of financial aid according to their school-specific policies, with most providing financial aid to at least half of their students. In an example to emulate, the School of Music provides a full tuition award and fellowship to all of its students, funded chiefly by restricted Endowment





The Yale School of Music provides its students a full tuition award and fellowship, thanks to a generous and far-sighted gift from Stephen Adams (B.A. 1959) and Denise Adams.

The Adamses' generosity to the school includes support for the renovation of the newly named Adams Center for Musical Arts, shown in these photographs.

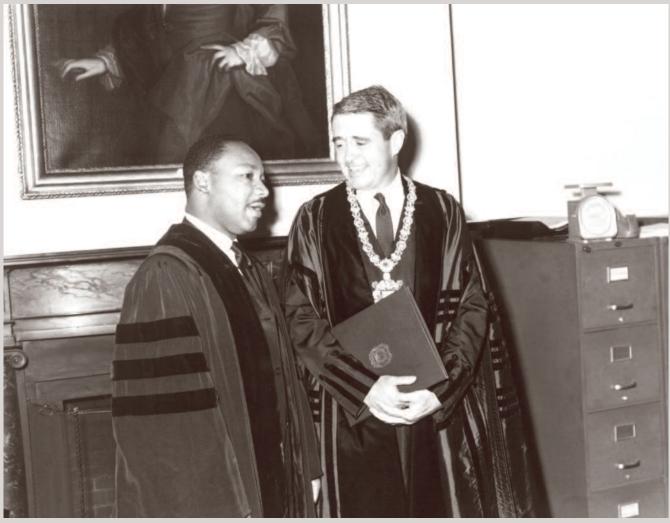


Hall of Graduate Studies, home of the Graduate School of Arts and Sciences. The school's six-year financial aid package for doctoral degree students covers tuition, health care, and an annual living

stipend. The tower (at left) has been renamed the David Swensen Tower thanks to a major renovation gift from Lisbet Rausing and Peter Baldwin (B.A. 1978).

funds established in 2006 by a \$100 million gift from Stephen Adams (B.A. 1959) and Denise Adams. Both Yale Law School and the School of Management have loan forgiveness programs to help offset the debt burdens of graduates pursuing government and non-profit sector jobs. Yale is committed to improving financial aid in the professional schools, particularly in areas such as nursing and public health, where students often graduate with significant debt and would benefit from additional financial support.

In June 2016, the University completed Access Yale, a two-year campaign to raise \$250 million for financial aid. The initiative to support students in Yale College, the Graduate School, and the twelve professional schools surpassed its fundraising goal, reaching a total of \$285.8 million.



In 1964, Kingman Brewster, Jr. (B.A. 1941), the seventeenth Yale University President,

inaugurated the policy of need-blind admissions, to make Yale College accessible to all qualified

students without regard for financial circumstances.

The Yale Endowment

2

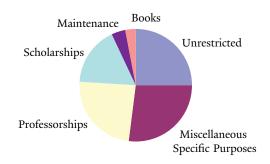
Totaling \$25.4 billion on June 30, 2016, the Yale Endowment contains thousands of funds with various purposes and restrictions. Approximately 84% of funds constitute true endowment, gifts restricted by donors to provide long-term funding for designated purposes. The remaining funds represent quasi-endowment, monies that the Yale Corporation chooses to invest and treat as Endowment.

Donors frequently specify a particular purpose for gifts, creating endowments to fund professorships, teaching, and lectureships (24%); scholarships, fellowships, and prizes (17%); maintenance (4%); books (3%); and miscellaneous specific purposes (27%). Twenty-five percent of funds are unrestricted. Twenty-five percent of the Endowment benefits the overall University, with remaining funds focused on specific units, including the Faculty of Arts and Sciences (27%), the professional schools (25%), the library (7%), and other entities (16%).

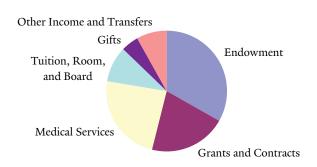
Although distinct in purpose or restriction, Endowment funds are commingled in an investment pool and tracked with unit accounting much like a large mutual fund. Endowment gifts of cash, securities, or property are valued and exchanged for units that represent a claim on a portion of the total investment portfolio.

In fiscal 2016 the Endowment provided \$1.2 billion, or 33%, of the University's \$3.5 billion operating budget. Other major sources of revenues were medical services of \$823 million (24%); grants and contracts of \$720 million (21%); net tuition, room, and board of \$333 million (10%); gifts of \$163 million (5%); and other income and transfers of \$282 million (8%).

Endowment Fund Allocation Fiscal Year 2016



Operating Budget Revenue Fiscal Year 2016



Investment Policy

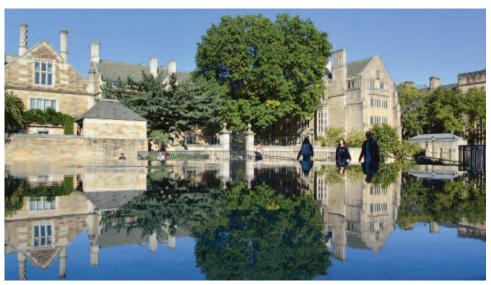
3

Yale's portfolio is structured using a combination of academic theory and informed market judgment. The theoretical framework relies on mean-variance analysis, an approach developed by Nobel laureates James Tobin and Harry Markowitz, both of whom conducted work on this important portfolio management tool at Yale's Cowles Foundation. Using statistical techniques to combine expected returns, variances, and covariances of investment assets, Yale employs mean-variance analysis to estimate expected risk and return profiles of various asset allocation alternatives and to test sensitivity of results to changes in input assumptions.

Because investment management involves as much art as science, qualitative considerations play an extremely important role in portfolio decisions. The definition of an asset class is subjective, requiring precise distinctions where none exist. Returns and correlations are difficult to forecast. Historical data provide a guide, but must be modified to recognize structural changes and compensate for anomalous periods. Quantitative measures have difficulty incorporating factors such as market liquidity or the influence of significant, low-probability events. In spite of the operational challenges, the rigor required in conducting mean-variance analysis brings an important perspective to the asset allocation process.

The combination of quantitative analysis and market judgment employed by Yale produces the following portfolio:

June 2016	June 2016
Actual	Target
22.1%	22.5%
4.0	4.0
4.9	5.0
14.9	15.0
14.7	15.0
7.9	7.5
13.0	12.5
16.2	16.0
2.3	2.5
	Actual 22.1% 4.0 4.9 14.9 14.7 7.9 13.0 16.2



Berkeley College is seen reflected in the Women's Table, designed by Maya Lin (B.A. 1981, M.ARCH. 1986). The sculpture commemorating women graduates of Yale was completed in 1993.

The target mix of assets produces an expected real (after inflation) long-term growth rate of 6.9% with risk (standard deviation of returns) of 13.7%. Although actual holdings differ slightly from target levels, the actual allocation produces a portfolio with the same expected growth rate and risk level. The University's measure of inflation is based on a basket of goods and services specific to higher education that tends to exceed the Consumer Price Index by approximately one percentage point.

At its June 2016 meeting, Yale's Investment Committee adopted changes to the University's policy portfolio allocations. The Committee approved increases in the venture capital target from 14% to 16%, in the absolute return target from 21.5% to 22.5%, in the foreign equity target from 14.5% to 15%, and in the cash target from 0% to 2.5%. The Committee approved decreases in the fixed income target from 8.5% to 5%, in the leveraged buyouts target from 16% to 15%, in the natural resources target from 8.5% to 7.5%, and in the real estate target from 13% to 12.5%.

Over the longer term, Yale seeks to allocate approximately one-half of the portfolio to the illiquid asset classes of leveraged buyouts, venture capital, real estate, and natural resources. The Endowment has made significant progress in reducing illiquidity in the years since the financial crisis.

Providing resources for current operations and preserving purchasing power of assets dictate investing for high returns, causing the Endowment to be biased toward equity. The University's vulnerability to inflation further directs the Endowment away from fixed income and toward equity instruments. Hence, more than 90% of the Endowment is targeted for investment in assets expected to produce equity-like returns, through holdings of domestic and international equities, absolute return strategies, real estate, natural resources, leveraged buyouts, and venture capital.

Over the past three decades, Yale dramatically reduced the Endowment's dependence on domestic marketable securities by reallocating assets to nontraditional asset classes. In 1986, over 80% of the Endowment was committed to U.S. stocks and bonds. Today, target allocations call for 11.5% in domestic marketable securities and cash, while the diversifying assets of foreign equity, absolute return, real estate, natural resources, leveraged buyouts, and venture capital dominate the Endowment, representing 88.5% of the target portfolio.

The heavy allocation to nontraditional asset classes stems from their return potential and diversifying power. Today's actual and target portfolios have significantly higher expected returns than the 1986 portfolio with lower volatility. Alternative assets, by their very nature, tend to be less efficiently priced than traditional marketable securities, providing an opportunity to exploit market inefficiencies through active management. The Endowment's long time horizon is well suited to exploit illiquid, less efficient markets such as real estate, natural resources, leveraged buyouts, and venture capital.

Beyond Financial Aid

The Yale Endowment supports a superlative educational experience in ways that extend beyond financial aid: it sustains faculty and staff, research programs, institutes, museums, libraries, publications, performances, athletics, and student activities and clubs. Behind the scenes, it helps to fund operational and capital costs, such as security, transportation, maintenance, and infrastructure. Because spending from the Endowment supports approximately one-third of the operating budget – consistently the single largest source of revenue even students not on financial aid receive a significant subsidy with respect to the cost of their education. The true cost of a Yale education for an undergraduate student is much higher than tuition, which supports just 10% of the University's annual budget.



Thomas A. Steitz, Sterling Professor of Molecular Biophysics & Biochemistry and Professor of Chemistry, was awarded the Nobel Prize in 2009 for his work with two collaborators on the structure and function of the ribosome.

Of the 7,000-plus funds comprising the Endowment, roughly three-quarters are restricted or designated for specific purposes based on donorimposed restrictions or University designations based on donor intent. Students benefit from the Endowment's support of professorships that bring leading academics and researchers to the University; acquisition funds that help purchase books and

materials for Yale's world-class libraries; and activities that cover a wide range of specific purposes, such as archaeological studies, digital dissemination, or chamber music, to name just a few. Funds dedicated to building maintenance preserve Yale's architecturally distinctive campus as a truly unique platform for discovery and learning. Collectively, endowed funds serve Yale's entire scholarly community and provide meaningful advantages to every student. In other words, all uses of Endowment funds, whether specifically designated or not, fall within Yale's educational and charitable mission to improve the world through outstanding research, scholarship, preservation, practice, and, above all, the education of aspiring leaders who serve all sectors of society.

Examples of Endowment-Funded Programs and Initiatives

Sterling Professorships

One of the University's great strengths is a world-class faculty, sustained by permanently endowed chairs or professorships. At Yale, no chairs are more respected than the Sterling Professorships. Recognized throughout academia, these endowed positions confer prestige on their holders, while providing a reliable flow of funds for their activities.

John W. Sterling, a New York attorney who graduated from Yale in 1864, left most of his estate to the University in 1918. At that time, his \$15 million bequest was the largest sum ever donated to an American university. The estate's trustees ultimately transmitted \$25 million to Yale. Sterling wished to have the money used to create "at least one enduring, useful and architecturally beautiful building" as well as "scholarships, fellowships, or lectureships; the endowment of new professorships, and the establishment of special funds for prizes."

Today, a Sterling Professorship is the highest honor at Yale, bestowed upon the University's most eminent



Mary Miller, Sterling Professor of Art and History of Art, is a specialist in prehispanic art and the arts of Mexico. She served as Dean of Yale College (2008–2014) and was previously the head of Saybrook College.

scholars. Appointment of Sterling Professors is made by the Yale President, in consultation with the Provost and the deans of the University's graduate and professional schools, and confirmed by a vote of the Yale Corporation.

In 1920, President Arthur Twining Hadley appointed John Johnson, a chemist, as the first Sterling Professor. Since then, a notable succession of scholars have held Sterling chairs, including Nobel Prize winners James Tobin, Sidney Altman, Thomas A. Steitz, and Robert J. Shiller; economist William Nordhaus; Supreme Court Justice William O. Douglas; art historian Vincent Scully; historian of ancient Greece Donald Kagan; art historian and former Dean Mary Miller; Chinese historian Jonathan Spence; legal scholar Roberta Romano; and physician Harvey Cushing.

In 1958, the Yale Corporation voted to limit the number of Sterling Professors to a maximum of twenty-seven at any one time, roughly the number of scholars that the Sterling endowment could support. With the growth of the Yale Endowment, the University expanded the number of authorized chairs to thirty-six in the 1990s, and to forty in the 2000s.

The Legacy of Paul Mellon

Paul Mellon (B.A. 1929) was one of the great art collectors and philanthropists of the twentieth century – and one of Yale's most generous donors. Of his many contributions, the gift of his British art collection, along with a museum to house it, is his most famous. Yet, Mellon's hand is seen in almost every corner of the University and particularly in Yale College's signature programs.

Born in Pittsburgh, Paul Mellon was the only son of Andrew W.

Mellon – the famed financier, industrialist, and Secretary of the Treasury – and his English wife, Nora

McMullen. He attended Yale during an era of tremendous change, witnessing firsthand how the bequests of John W. Sterling (B.A. 1864) and Edward S. Harkness (B.A. 1897) transformed the University. When he undertook his own philanthropy, beginning in the 1940s, Mellon built on their example.

Mellon was concerned that as the University grew, it would lose the strong sense of community that characterized its early years. The challenge was significant: during his lifetime, the student body doubled in size, enrolled women, and welcomed students from more than 100 nations. As Yale College grew and the graduate and professional schools came to

account for more than half the student population, the curriculum widened to include hundreds of educational offerings and thousands of research programs.

To preserve Yale's connection to its small, liberal arts roots, Mellon looked to the residential college system. In 1949, he created a fund for a student mental health program linked to the colleges. In 1952, he endowed the college seminars, and later, the Scholars of the House program. He also endowed the heads of Morse and Stiles and the deanships of all twelve colleges, defining the Yale system of academic advising for undergraduates.

Mellon gave funds to establish academic programs that sustained close ties among faculty and students, like Directed Studies, the Humanities major, and Theater Studies. His benefactions included endowment funds for the Graduate School and faculty chairs in the arts, sciences, medicine, divinity, and forestry. He endowed the Bollingen Prize and the William Clyde DeVane Lecture Series, as well as the Paul Mellon Fellowship program between Yale and Clare College, Cambridge.

In 1966, citing Yale's longstanding strength in British studies, Mellon donated his collection of British paintings, drawings, and prints, together with a landmark building and a generous endowment for academic, curatorial, and maintenance purposes. As a condition of Mellon's gift, admission to the Yale Center for British Art is free for the general public.

Center for Teaching and Learning

Yale established the Center for Teaching and Learning in 2014 using startup funds from an anonymous teaching endowment. Inspired by President Salovey's call for a more unified Yale, the center seeks to consolidate a range of teaching initiatives under one umbrella, while expanding services for faculty and students across Yale College, the Graduate School, and the professional schools. In January 2017, the reorganized center moved into a permanent home in Sterling Memorial Library, providing a hub for support, training, and community-building at the heart of Yale's campus.

All of Yale's instructors, from junior staff to tenured faculty members, must be well versed in the most effective teaching methods and have access to tools to update the curriculum. Students, for their part, require ample opportunity to develop deep skills in critical thinking, writing, quantitative reasoning, and language. By supporting teaching consultations for faculty and graduate students, student learning and writing, global online learning opportunities, and other innovations, the Center for Teaching and Learning aspires to address the educational needs of the Yale community.

Tobin Research Assistantships

The Tobin Research Assistantships (RAs) are named after James Tobin, a prominent member of the Department of Economics at Yale from 1950 to 2002 and the winner of the Nobel Prize in Economics in 1981. He was an avid supporter of involving undergraduates in research in economics and was the leader of "Tobin's 'army' – generations of undergraduates [who] became part of an intellectual adventure ... and were instilled with the desire to devote knowledge and reason to the betterment of soci-



Paul Mellon (B.A. 1929) left an indelible mark on the University by funding the Yale Center for British Art (illustrated) and establishing interdisciplinary courses and residential college deanships, among many other innovations.



Nobel Laureate and Sterling Professor of Economics James Tobin is commemorated by the Tobin Research Assistantships to encourage undergraduate research.

ety" (quoted in "Remembering James Tobin: Stories Mostly from His Students," by Robert Goldfarb, Eastern Economic Journal, 2003).

The purpose of the Tobin RAs is to give undergraduates in economics at Yale an opportunity to learn by conducting research in economics side-by-side with a professor. Tobin RAs typically begin in the fall and are renewable, upon mutual agreement of the professor and the RA, for up to one additional term.

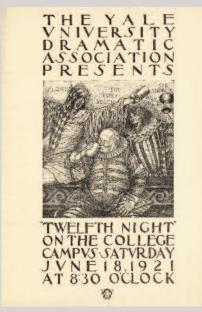
The Yale Dramatic Association

The Yale Dramatic Association, or Dramat, was founded in 1900 to produce high-quality drama at Yale. It is the second-oldest college theater association in the country and the largest undergraduate theater organization at Yale. Two generous endowments support the Dramat, one established in the early 1900s and the other created in 1997 by a group of donors as part of the "...and for Yale" Campaign.

The Dramat produces seven shows a year: three productions, called Experimental Shows, staffed entirely by students; the Freshman Show, staffed, crewed, and performed entirely by freshmen; the Fall Mainstage and the Spring Mainstage, directed and designed by a team of both professionals and qualified students; and the annual Commencement Musical, entirely student staffed, produced in the ten-day period between the end of exams and Commencement Weekend.

The Dramat has presented American premieres of Camus' Caligula, de Ghellerhode's The Death of Doctor Faust, Shakespeare's Troilus and Cressida, and Bond's The Woman, as well as the English-language premiere of Eugene Ionesco's Hunger and Thirst. Original works by Yale undergraduates are also a Dramat tradition,

whose earliest contributors were Cole Porter (B.A. 1913), Stephen Vincent Benet (B.A. 1919), and Thornton Wilder (B.A. 1920). The Dramat offers a unique opportunity for Yale students to work with professional directors, designers, and choreographers in the best-equipped theater facilities on campus.



Poster announcing a 1921 production of *Twelfth Night* by the Yale Dramatic Association.



The Center for Teaching and Learning, focused on innovative, interdisciplinary methods, opened at Yale in 2014, thanks to support from

an anonymous benefactor. The center is now located near the new York Street entrance to Sterling Memorial Library. The photo shows an

evaluation team, in one of the center's class-rooms, reviewing database structure.

Asset Class Characteristics

Absolute Return

Domestic Equity

Yale's eight asset classes are defined by differences in their expected response to economic conditions, such as economic growth, price inflation, or changes in interest rates, and are weighted in the Endowment portfolio by considering their risk-adjusted returns and correlations. The University combines the asset classes in such a way as to provide the highest expected return for a given level of risk, subject to fundamental diversification and liquidity constraints.

In July 1990, Yale became the first institutional investor to define absolute return strategies as a distinct asset class, beginning with a target allocation of 15.0%. Designed to provide significant diversification to the Endowment, absolute return investments are expected to generate high long-term real returns by exploiting market inefficiencies. The portfolio is invested in two broad categories: event-driven strategies and value-driven strategies. Event-driven strategies rely on a very specific corporate event, such as a merger, spin-off, or bankruptcy restructuring, to achieve a target price. Value-driven strategies involve hedged positions in assets or securities with prices that diverge from their underlying economic value. Today, the absolute return portfolio is targeted to be 22.5% of the Endowment, below the average educational institution's allocation of 23.6% to such strategies. Absolute return strategies are expected to generate a real return of 4.8% with risk of 8.6%. The Barclays 9 to 12 Month Treasury Index serves as the portfolio benchmark.

Unlike traditional marketable securities, absolute return investments have historically provided returns largely independent of overall market moves. Over the past twenty years, the portfolio exceeded expectations, returning 9.3% per year with low correlation to domestic stock and bond markets.

Equity owners reasonably expect to receive returns superior to those produced by less risky assets such as bonds and cash. The predominant asset class in most U.S. institutional portfolios, domestic equity represents a large, liquid, and heavily researched market. While the average educational institution invests 19.6% of assets in domestic equities, Yale's target allocation to this asset class is only 4.0%. The domestic equity portfolio has an expected real return of 6.0% with a standard deviation of 18.0%. The Wilshire 5000 Index serves as the portfolio benchmark.

Despite recognizing that the U.S. equity market is highly efficient, Yale elects to pursue active management strategies, aspiring to outperform the market index by a few percentage points, net of fees, annually. Because superior stock selection provides the most consistent and reliable opportunity for generating attractive returns, the University favors managers with exceptional bottom-up, fundamental research capabilities. Managers searching for out-of-favor securities often find stocks that are cheap in relation to fundamental measures such as asset value, future earnings, or cash flow. Yale's domestic equity portfolio has posted returns of 12.3% per year over the past twenty years.

Fixed Income

Fixed income assets generate stable flows of income, providing more certain nominal cash flow than any other Endowment asset class. The bond portfolio exhibits a low covariance with other asset classes and serves as a hedge against financial accidents or periods of unanticipated deflation. While the typical educational institution's allocation to fixed income and cash instruments is 12.7%, Yale's target allocation to fixed income and cash is 7.5%. Bonds have an expected real return of 0.5% with risk of 3.0%. The Barclays Capital 1 to 3 Year Treasury Index serves as the portfolio benchmark.

Yale is not particularly attracted to fixed income assets, as they have the lowest expected returns of the eight asset classes that make up the Endowment. In addition, the government bond market is arguably the most efficiently priced asset class, offering few opportunities to add significant value through active management. Based on skepticism of active fixed income strategies and belief in the efficacy of a highly structured approach to bond portfolio management, the Investments Office chooses to manage Endowment bonds internally. Over the past twenty years, the fixed income portfolio has generated returns of 4.9% per annum.

Foreign equity investments give the Endowment exposure to the global economy, providing diversification and the opportunity to earn outsized returns through active management. Yale allocates 6.0% of its portfolio to foreign developed markets and 9.0% to emerging markets. Yale's foreign equity target allocation of 15.0% stands below the average endowment's allocation of 21.4%. Expected real returns for emerging equities are 7.5% with a risk level of 23.0%, while developed equities are expected to return 6.0% with risk of 18.0%. The portfolio is benchmarked against a composite of developed markets, measured by the MSCI Europe, Australasia, and Far East (EAFE) Investable Market Index, and emerging markets, measured by a blend of the MSCI Emerging Markets Investable Market Index and the MSCI China A-Share Investable Market Index.

Yale's investment approach to foreign equities emphasizes active management designed to uncover attractive opportunities and exploit market inefficiencies. As in the domestic equity portfolio, Yale favors



Foreign Equity

managers with strong fundamental research capabilities. Capital allocation to individual managers takes into consideration the country allocation of the foreign equity portfolio, the degree of confidence that Yale possesses in a manager, and the appropriate size for a particular strategy. In addition, Yale attempts to exploit mispricings in countries, sectors, and styles by allocating capital to the most compelling opportunities. Twenty-year returns for Yale's foreign equity portfolio stand at 14.1% per year.

Leveraged Buyouts

Leveraged buyouts offer extremely attractive long-term risk-adjusted returns, stemming from the University's strong stable of managers that exploit market inefficiencies. The University's target allocation to leveraged buyouts of 15.0% far exceeds the 6.1% actual allocation of the average educational institution. The leveraged buyout portfolio is expected to generate real returns of 10.0% with risk of 23.6%.

Yale's leveraged buyout strategy emphasizes partnerships with firms that pursue a value-added approach to investing. Such firms work closely with portfolio companies to create fundamentally more valuable entities, relying only secondarily on financial engineering to generate returns. Investments are made with an eye toward long-term relationships – generally, a commitment is expected to be the first of several – and toward the close alignment of the interests of general and limited partners. Over the past twenty years, the leveraged buyout program has earned 13.6% per annum.

Equity investments in natural resources – oil and gas, timberland, metals and mining, and agriculture – share common risk and return characteristics: protection against unanticipated inflation, high and visible current cash flow, and opportunities to exploit inefficiencies. At the portfolio level, natural resource investments provide attractive return prospects and significant diversification. Yale has a 7.5% policy allocation to natural resources with expected real returns of 6.5% and risk of 24.5%. Yale's natural resources allocation is slightly below the 8.0% allocation of the average endowment.

Superior operators have demonstrated the ability to generate excess returns through a market cycle. Over the past twenty years, Yale's oil and gas, timber, mining, and agriculture portfolio has generated an impressive 16.2% per annum.

Investments in real estate provide meaningful diversification to the Endowment. A steady flow of income with equity upside creates a natural hedge against unanticipated inflation without sacrificing expected return. Yale's 12.5% policy allocation significantly exceeds the average endowment's commitment of 3.9%. Expected real returns are 5.5% with risk of 15.0%.

While real estate markets sometimes produce dramatically cyclical returns, pricing inefficiencies in the asset class and opportunities to add value allow superior managers to generate excess returns over long time horizons. Twenty-year returns for the portfolio stand at 11.3% per annum.

Natural Resources

Real Estate

Venture Capital

Venture capital investments provide compelling option-like returns as the University's premier venture managers gain exposure to innovative start-up companies from an early stage. Yale's target venture capital allocation of 16.0% exceeds the 4.9% actual allocation of the average educational institution. The venture capital portfolio is expected to generate real returns of 16.0% with risk of 37.8%.

Yale's venture capital program, one of the first of its kind, is regarded as among the best in the institutional investment community and the University is frequently cited as a role model by other investors. Yale's venture capital managers field strong, cohesive, and hungry teams with proven ability to identify opportunities and support talented entrepreneurs. The University's venture capital portfolio contains an unparalleled set of manager relationships, significant market knowledge, and an extensive network. Over the past twenty years, the venture capital program has earned an outstanding 77.4% per annum.

Asset Allocations as of June 30, 2016

	Yale	Educational
	University	Institution Mean
Absolute Return	22.1%	23.6%
Domestic Equity	4.0	19.6
Fixed Income	4.9	9.2
Foreign Equity	14.9	21.4
Leveraged Buyouts	14.7	6.1
Natural Resources	7.9	8.0
Real Estate	13.0	3.9
Venture Capital	16.2	4.9
Cash	2.3	3.5

Note: Educational Institution Mean values sum to 100.2% due to rounding.



Dwight Hall, home of the Center for Public Service and Social Justice.

Spending Policy



The spending rule is at the heart of fiscal discipline for an endowed institution. Spending policies define an institution's compromise between the conflicting goals of providing support for current operations and preserving purchasing power of Endowment assets. The spending rule must be clearly defined and consistently applied for the concept of budget balance to have meaning.

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 combining a long-term spending rate target 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 inflation-adjusted market value two years prior. The smoothing rule and the

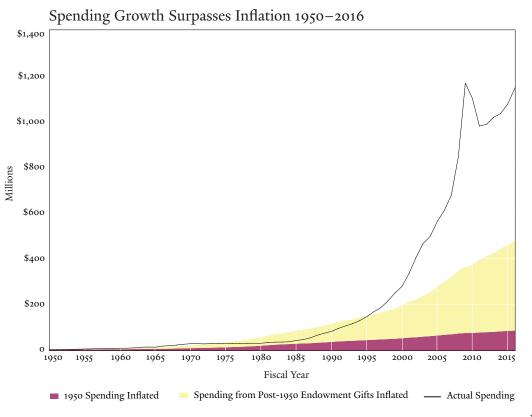


Doorway at Saybrook College honoring "Noah Webster, Class of 1778, Lexicographer," whose name is synonymous with dictionaries.

diversified nature of the Endowment are designed to mitigate the impact of short-term market volatility on the flow of funds to support Yale's operations.

The spending rule has two implications. First, by incorporating the prior year's spending, the rule eliminates large fluctuations, enabling the University to plan for its operating budget needs. Over the last twenty years, the standard deviation of annual changes in actual spending has been approximately 70% of the standard deviation of Endowment returns. Second, by adjusting spending toward the long-term target spending level, the rule ensures that spending will be sensitive to fluctuating Endowment market values, providing stability in long-term purchasing power.

Distributions to the operating budget rose from \$616 million in fiscal 2006 to \$1.2 billion in fiscal 2016. The University projects spending of \$1.2 billion from the Endowment in fiscal 2017, representing approximately 34% of revenues.



Net Performance Matters

In recent years, a broad range of market commentators have decried excessive fees paid to hedge funds and private equity funds. A couple of years ago, when a New York Times op-ed piece compared the estimated fees earned by Yale's private equity managers to financial aid distributions from the Endowment, Malcolm Gladwell infamously tweeted, "I was going to donate money to Yale. But maybe it makes more sense to mail a check directly to the hedge fund of my choice." More recently, Warren Buffett joined the chorus, suggesting that endowments (among others) suffered from behavioral biases that preclude them from "meekly" investing in index funds and that cause them to believe "they deserve something 'extra' in investment advice."

What Buffett, Gladwell, and other fee bashers miss is that the important metric is net returns, not gross fees. At its core, Yale's investment strategy emphasizes long-term active management of equity-oriented, often illiquid assets. Performance-based compensation earned by external, active investment managers is a direct consequence of investment outperformance. Yale's strong investment returns, the highest of all colleges and universities over the past twenty and thirty years according to Cambridge Associates, result in external managers earning large performance-based fees. Weak or negative returns would result in low or no performance-related fees, but would be a terrible outcome for the University.

Instead of paying fees to active managers, Yale could invest in lowcost passive index strategies. Such strategies make sense for organizations lacking the resources and capabilities to pursue successful active management programs, a group that arguably includes a substantial majority of endowments and foundations. However, Yale has demonstrated its ability to identify top-tier active managers that consistently generate betterthan-market returns, after considering performance fees. Yale's returns net of fees are superior to the returns of the low-cost index-tracking vehicles.

More specifically, while investing in a passive index strategy would have resulted in lower fee payments by Yale over the past thirty years, it would have resulted in dramatically lower net returns, diminishing the Endowment's ability to support the University. If Yale's assets had been invested in a classic 60% U.S. equity and 40% U.S. bond portfolio (60/40 portfolio)¹ for the past thirty years, the strategy would have resulted in lower spending and a smaller Endowment, reducing by more than \$28 billion the support to Yale's educational mission. While critics might argue that the classic 60/40 portfolio is a "slow rabbit," easy to beat, endowments must diversify to weather storms, such as those experienced in 1987, 2000, and 2008. Yet,

even relative to an aggressive 90/10 portfolio² (Buffett's personal choice), Yale added \$26.4 billion over the past three decades.

Strong active management contributes to Yale's outstanding absolute and relative investment performance. While passive investment strategies result in low fee payments, an index approach to managing the University's Endowment would shortchange Yale's students, faculty, and staff, now and for generations to come.

- ¹ In the 6o/4o portfolio, the equity component is based on the Wilshire 5000 and the bond component is based on the Barclays U.S. Aggregate Bond Index.
- ² In the 90/10 portfolio, as Buffett suggests, the equity component is based on the Vanguard 500 Index Fund and the bond component is based on the Barclays 1 to 5 Year U.S. Treasury Index. Such a portfolio would be inappropriate for an endowment with substantial spending needs.



Gothic window design, one of many that distinguish the Yale campus.

Investment Performance

5

Performance by Asset Class Yale has produced excellent long-term investment returns. Over the tenyear period ending June 30, 2016, the Endowment earned an annualized 8.1% return, net of fees, surpassing annual results for domestic stocks of 7.5% and domestic bonds of 5.1%, and placing Yale among the top 3% of colleges and universities. Endowment outperformance stems from sound asset allocation policy and superior active management.

Yale's long-term superior performance relative to its peers and benchmarks creates substantial wealth for the University. Over the ten years ending June 30, 2016, Yale added \$7.0 billion relative to the average return of a broad universe of college and university endowments and \$6.0 billion relative to its passive benchmark.

Yale's long-term asset class performance continues to be outstanding. In the past ten years, nearly every asset class posted superior returns, outperforming benchmark levels.

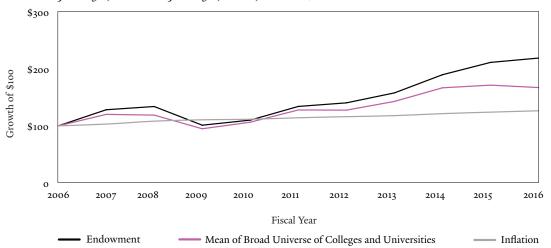
Over the past decade, the absolute return portfolio produced an annualized 5.9% return, exceeding the passive Barclays 9 to 12 Month Treasury Index by 4.2% per year and besting its active benchmark of hedge fund manager returns by 3.5% per year. For the ten-year period, absolute return results exhibited little correlation to traditional marketable securities.

The domestic equity portfolio returned an annualized 10.5% for the ten years ending June 30, 2016, outperforming the Wilshire 5000 by 3.0% per year and the BNY Median Manager return, net of estimated fees, by 3.6% per year. Yale's active managers have added value to benchmark returns primarily through stock selection.

Yale's internally managed fixed income portfolio earned an annualized 3.3% over the past decade, keeping pace with the passive index and exceeding the BNY Median Manager return, net of estimated fees, by 0.3% per year. Because the fixed income portfolio serves as the University's primary source of liquidity, the Endowment generally forgoes opportunities to generate excess returns.

The foreign equity portfolio generated an annual return of 13.7% over the ten-year period, outperforming its composite passive benchmark by 9.5% per year and the BNY Median Manager return, net of estimated

Yale's Performance Exceeds Peer Results
June 30, 2006 to June 30, 2016, 2006=\$100



fees, by 10.6% per year. The portfolio's excess return is due to astute country allocation and effective security selection by active managers.

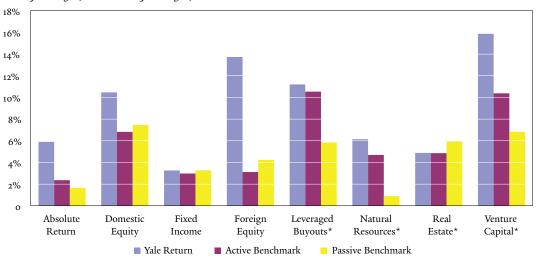
Leveraged buyouts generated an annualized 11.2% return over the decade, outperforming the composite passive benchmark by 5.4% per year and outperforming the pool of buyout and growth equity managers compiled by Cambridge Associates by 0.7% per year. Leveraged buyout performance demonstrates the value of superior active management.

Yale's natural resources portfolio produced an annualized return of 6.1% over the past decade, surpassing its composite passive benchmark by 5.3% per year and the Cambridge Associates natural resources manager pool by 1.5% per year. Yale's strong performance results from partnership with superior operators.

Real estate generated a 4.9% annualized return over the ten-year period, underperforming the MSCI U.S. REIT Index by 1.1% per year but keeping pace with the pool of Cambridge Associates real estate managers. Yale's real estate managers pursue contrarian investment strategies and seek to exploit market inefficiencies.

The venture capital portfolio earned an annualized return of 15.9% for the ten years ending June 30, 2016, exceeding its composite passive benchmark by 9.0% per year and the Cambridge Associates venture capital manager pool by 5.5% per year. Yale's venture capital program focuses on premier firms that are likely to generate superior returns by emphasizing a value-added approach.

Yale Asset Class Results Beat Most Benchmarks June 30, 2006 to June 30, 2016



^{*} Yale Returns and Active Benchmarks are dollar-weighted.

Active Benchmarks

Absolute Return: Credit Suisse Composite

Domestic Equity: BNY Median Manager, U.S. Equity, with fee adjustment of 78 basis points per annum

Fixed Income: BNY Median Manager, Fixed Income, with fee adjustment of 33 basis points per annum

Foreign Equity: BNY Median Manager Composite, Foreign Equity, with fee adjustment of 79 basis points per annum for developed equity and 98 basis points per annum for emerging equity

Leveraged Buyouts: Cambridge Associates Leveraged Buyouts Composite

Natural Resources: Cambridge Associates Natural Resources Composite

Real Estate: Cambridge Associates Real Estate Venture Capital: Cambridge Associates Global Venture Capital

Passive Benchmarks

Absolute Return: Barclays 9-12 Month Treasury

Domestic Equity: Wilshire 5000

Fixed Income: Barclays 1-3 Year Treasury (Barclays 1-5 Year Treasury from July 2008 to September 2013, LB Treasury Index from July 2006 to June 2008)

Foreign Equity: Blend of MSCI EAFE Investable Market Index, MSCI Emerging Markets Investable Market Index, MSCI China A-Share Investable Market Index

Leveraged Buyouts: Blend of Russell 2000, MSCI ACWI ex-U.S. Small-Cap Index

Natural Resources: Blend of Custom Timber REIT Basket, S&P O&G Exploration & Production Index, Euromoney Global Mining Index

Real Estate: MSCI U.S. REIT Index

Venture Capital: Blend of Russell 2000 Technology, MSCI China Small-Cap Index, MSCI India Small-Cap Index

Management and Oversight



Investment Committee

Since 1975, the Yale Corporation Investment Committee has been responsible for oversight of the Endowment, incorporating senior-level investment experience into portfolio policy formulation. The Investment Committee consists of at least three Fellows of the Corporation and other persons who have particular investment expertise. The Committee meets quarterly, at which time members review asset allocation policies, Endowment performance, and strategies proposed by Investments Office staff. The Committee approves guidelines for investment of the Endowment portfolio, specifying investment objectives, spending policy, and approaches for the investment of each asset category.

Douglas A. Warner, III '68 Chairman Former Chairman J.P. Morgan Chase & Co.

Francis Biondi '87 Managing Member King Street Capital Management

Ben Inker '92
Partner
GMO

Paul Joskow '72 PH.D. President Alfred P. Sloan Foundation

Ann Miura-Ko '98 Co-Founder Floodgate Kevin Ryan '85 Chairman and Founder MongoDB, Zola, Workframe, and Nomad Health

John Shrewsberry '92 MPPM Senior Executive Vice President and CFO Wells Fargo & Company

Peter Salovey '86 PH.D. President Yale University

Carter Simonds '99 Managing Director Blue Ridge Capital

Dinakar Singh '90 CEO and Founding Partner TPG-Axon Capital



Yale Fee Structures

Yale structures its partnerships with external managers to align their incentives with those of the University. Sensible management fees cover reasonable overhead costs, while performance fees, generally negotiated as a percentage of profits above an appropriate benchmark, motivate our partners to generate superior returns. Material co-investment in a fund by its principals creates a powerful alignment of interests, especially with regard to taking appropriate levels of risk. Fair and effective fee and fund structures promote an entrepreneurial mindset, reward outstanding longterm performance, and enable firms to attract and retain investment talent. The Yale Investments Office staff works to negotiate fair structures for all of the University's investments.

Benchmark selection is important in creating suitable incentive compensation structures. To determine an appropriate performance hurdle, an investor must consider the opportunity cost of capital and the investment universe covered by the manager. For active managers of marketable equities, indices representative of the manager's selection universe (in terms of market, company size, and quality) are most frequently used. For example, a manager who selects positions from among large, high-quality U.S. equities should be compared to an index like the S&P 500, while an investor in securities in a broad range of developed markets should be measured against a global developed benchmark.

Determining appropriate benchmarks can be particularly challenging for managers in alternative asset classes, as alternatives lack widely accepted benchmarks. In absolute return, hurdle rates should be tailored to the strategy of each manager, with benchmarks ranging from equity indices for long-biased managers to short-term Treasuries for marketneutral managers to negative equity indices for short sellers. For real estate managers, where expected returns fall between fixed income and equity, a hurdle rate based on a premium to fixed income returns makes sense.

In some markets, Yale has little bargaining power. Venture capital and leveraged buyouts present the greatest challenge, as the overwhelming demand for high-quality managers reduces the ability of limited partners to influence deal terms. While compensation in private equity might sensibly be constructed as a profits interest in returns exceeding a premium over long-term marketable equity results, incentive fees in private equity are most often determined as a share of all profits after returning investors' capital.

After setting performance hurdles, Yale structures its partnerships so

incentive fees are only paid when external partners outperform their benchmarks on a net basis. Within the marketable asset classes, features such as high water marks and rolling fee structures ensure that managers do not get paid twice for the same outperformance. On the illiquid side of the portfolio, where managers receive a share of investment profits, Yale requires that our partners return all of investors' capital, including both invested capital and management fees, before reaping the rewards of performance-based fees. The University seeks to limit mechanisms to pre-pay incentive fees, and in the event that



Woodbridge Hall was named for Rev. Timothy Woodbridge, one of the founders of Yale. The two-story building was constructed for Yale's bicentennial in 1901 thanks to the generosity

of Olivia Egleston Phelps Stokes and Caroline Phelps Stokes. It houses the Office of the President, the Office of the Secretary, and the Corporation Room.

our partners are overpaid upon the conclusion of a fund, clawback features provide additional protection.

While management fees cover firm overhead and performance fees provide an incentive to produce outsized returns, they create options that may lead to behavior that benefits the fund operator and disadvantages the provider of funds. Material co-investment by fund managers provides a powerful method of aligning interests. Instead of a profit-sharing arrangement in which managers share only in a fund's gains, co-invested managers participate directly in gains and losses. Managers with significant co-investment are less likely to take excessive risk or grow their asset base to a level that diminishes their investment opportunity set. They are motivated instead to make optimal, investment-return-driven decisions. When fund managers become principals, investors benefit tremendously from the alignment of interest.

Once terms are set, maintaining fair and effective compensation structures requires continued attention and diligence. As assets under management grow as a result of investment success, Yale ensures that management fees remain in line with firm overhead, preventing excessive asset-based fees from driving a wedge between the incentives of the investor and the manager. Established managers will continue to earn the greater share of their profits from incentive fees, promoting an entrepreneurial, outperformanceoriented mindset. Additionally, as investment teams grow, Yale actively encourages sharing the profits from superior performance with a wider group of team members at the firm. A broader distribution of profits promotes organizational cohesiveness and provides a way for firms to attract, motivate, and retain top talent. Stable, aligned, and properly motivated investment firms are most likely to generate superior active management results, enabling Yale to outperform the passive alternative.

Handsome Dan XVIII, Yale's latest canine mascot, is an Olde English Bulldogge from Maine, born on September 23, 2016.

Yale's Experience

The Investments Office negotiates fees and terms throughout the Endowment portfolio. All of Yale's domestic equity managers employ a market-based hurdle or a fixed hard hurdle as part of their incentive compensation structure; the majority have management fee rates that scale down as firm assets grow. Most of the Endowment's foreign equity managers employ a marketbased or fixed hurdle in combination with a rolling incentive fee structure aligned with an appropriate long-term investment time horizon. In the absolute return portfolio, more than 95% of Yale's capital is invested with managers that have fee structures superior to the standard 2% management fee and 20% performance fee with no hurdle. Deal terms in absolute return include management fees of less than 2%, carried interest payments of less than 20%, and hard hurdle rates, frequently based off of the one-year U.S. Treasury rate.

Yale is frequently a lead investor in the University's real estate partnerships, using its favorable position to negotiate fair deal terms for all limited partners. Attractive features of a typical real estate partnership include annual fees that offset firm overhead, hard preferred returns in the 5% to 6% range, and a 20% carried interest structure.

In the leveraged buyout and venture capital asset classes, where top-tier firms enjoy intense investor interest for limited fund capacity, Yale is not in a strong position to modify economic terms. However, the University works hard to ensure that partnership agreements are fair, including transaction, advisory, and monitoring fee offsets, strong clawback protections, and material general partner co-investment. Yale's natural resources managers employ a variety of tailored fund and fee structures suited to their specific investment strategies. Investments Office staff maintain close relationships with managers to ensure that funds are structured in a fair and appropriate way.



The Investments Office manages the Endowment and other University financial assets, and defines and implements the University's borrowing strategies. Headed by the Chief Investment Officer, the Office currently consists of thirty-two professionals.

Investments Office

David F. Swensen '80 PH.D. '14 L.H.D. Michael E. Finnerty
Chief Investment Officer Associate Director

Dean J. Takahashi '80, '83 MPPM Patrick K. Sherwood '13 M.B.A.

Senior Director Associate Director

Carrie A. Abildgaard Xinchen Wang '09
Director Associate Director

Alexander C. Banker Celeste P. Benson

Director Senior Portfolio Manager

Alan S. Forman Michael Knight
Director Senior Business Associate

R. Alexander Hetherington '06 Philip J. Bronstein '12
Director Senior Associate

Lisa M. Howie '00, '08 M.B.A. Amy M. Chivetta
Director Senior Associate

Matthew S. T. Mendelsohn '07 Timothy H. Hillas '13
Director Senior Investment Analyst

John V. Ricotta '08 Sophia B. Jia '14
Director Senior Investment Analyst

Cain P. Soltoff '08 Daniel J. Otto '12
Director Senior Investment Analyst

Timothy R. Sullivan '86 John T. Ryan '14
Director Senior Investment Analyst

Kenneth R. Miller '71 E. Benjamin VanGelder '13 Senior Associate General Counsel Senior Investment Analyst

Stephanie S. Chan '97 Laura W. Bass '15
Associate General Counsel Investment Analyst

Deborah S. Chung

Associate General Counsel

Jonathan W. Lam '16

Investment Analyst

Sohail S. Ramirez '10 JD Robert J. Pecoraro '15
Associate General Counsel Investment Analyst

Peter N. Steinwachs
Associate General Counsel

Ahmed L. Sarhan '16
Investment Analyst

Sources

Financial and Investment Information

Educational institution asset allocations and returns from Cambridge Associates.

Much of the material in this publication is drawn from memoranda produced by the Investments Office for the Yale Corporation Investment Committee. Other material comes from Yale's financial records, Reports of the Treasurer, and Reports of the President.

Financial Aid at Yale

Powell, Farran. "Colleges That Claim to Meet Full Financial Need." *U.S. News & World Report*, September 19, 2016.

Accessed at https://www.usnews.com/education/best-colleges/paying-for-college/articles/2016-09-19/colleges-that-claim-to-meet-full-financial-need.

The Chronicle of Higher Education. "College Completion."

Accessed at http://collegecompletion.chronicle.com/.

The Institute for College Access & Success. "Student Debt and the Class of 2015." October 2016. Accessed at http://ticas.org/sites/default/files/pub_files/classof2015.pdf.

Yale University Controller's Office

Yale University Financial Aid

Yale University Office of Development

Beyond Financial Aid

Goldfarb, Robert S. "Remembering James Tobin: Stories Mostly from His Students." *Eastern Economic Journal* 29 (2003): 499-518.

Yale Center for British Art

Yale Center for Teaching and Learning

Yale Dramatic Association

Yale University Department of Economics

Yale University Office of Development

Yale Fee Structures

Swensen, David F. *Pioneering Portfolio Management*. New York: Simon & Schuster, 2009.

Photo Credits

Page 4 (above and below): @Bob Handelman/Yale School of Music.

Page 5 (below), page 11 (right): Manuscripts and Archives, Yale University.

Page 11 (below): Newman Architects, New Haven.

Page 23: Yale Athletics

Inside back cover: John Lapides, Yale Athletics.

Front and back covers, and all other photographs: Michael Marsland, Yale Office of Public Affairs and Communications.

Design

Strong Cohen LLC/L. Feher

Back cover photographs: Yale through the seasons. Spring transforms a doorway at Vanderbilt Hall. Cross-campus lawn, with Sterling Memorial Library in background, on a summer day. A student walks across an autumnal Old Campus. The statue of Abraham Pierson, a founder and first rector (1701-1707) of Yale, weathers a winter storm.



Junior Heidi VanderWel and sophomore Isabella Hindley share a congratulatory hug as the Yale women's swimming and diving team captured its first Ivy League Championship since 1997 in a close battle against Harvard last winter. VanderWel's win in the 200-yard backstroke set a Yale record and she helped clinch the

win with other bests in both the 200-yard and 400-yard medley relays. Hindley took first in the 100-yard and 50-yard freestyle races, setting records for both.

