

# 2012

The Yale Endowment

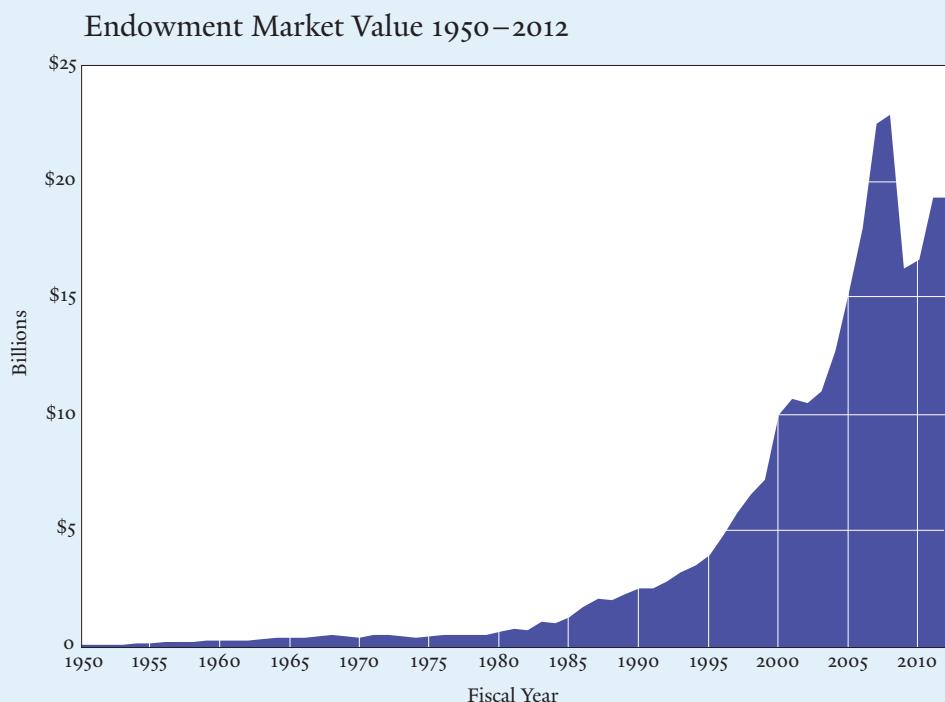


## Endowment Highlights

	Fiscal Year				
	2012	2011	2010	2009	2008
Market Value (in millions)	\$19,344.6	\$19,374.4	\$16,652.1	\$16,326.6	\$22,869.7
Return	4.7%	21.9%	8.9%	-24.6%	4.5%
Spending (in millions)	\$ 994.2	\$ 986.8	\$ 1,108.4	\$ 1,175.2	\$ 849.9
Operating Budget Revenues (in millions)	\$ 2,851.7	\$ 2,734.2	\$ 2,681.3	\$ 2,559.8	\$ 2,280.2
Endowment Percentage	34.9%	36.1%	41.3%	45.9%	37.3%

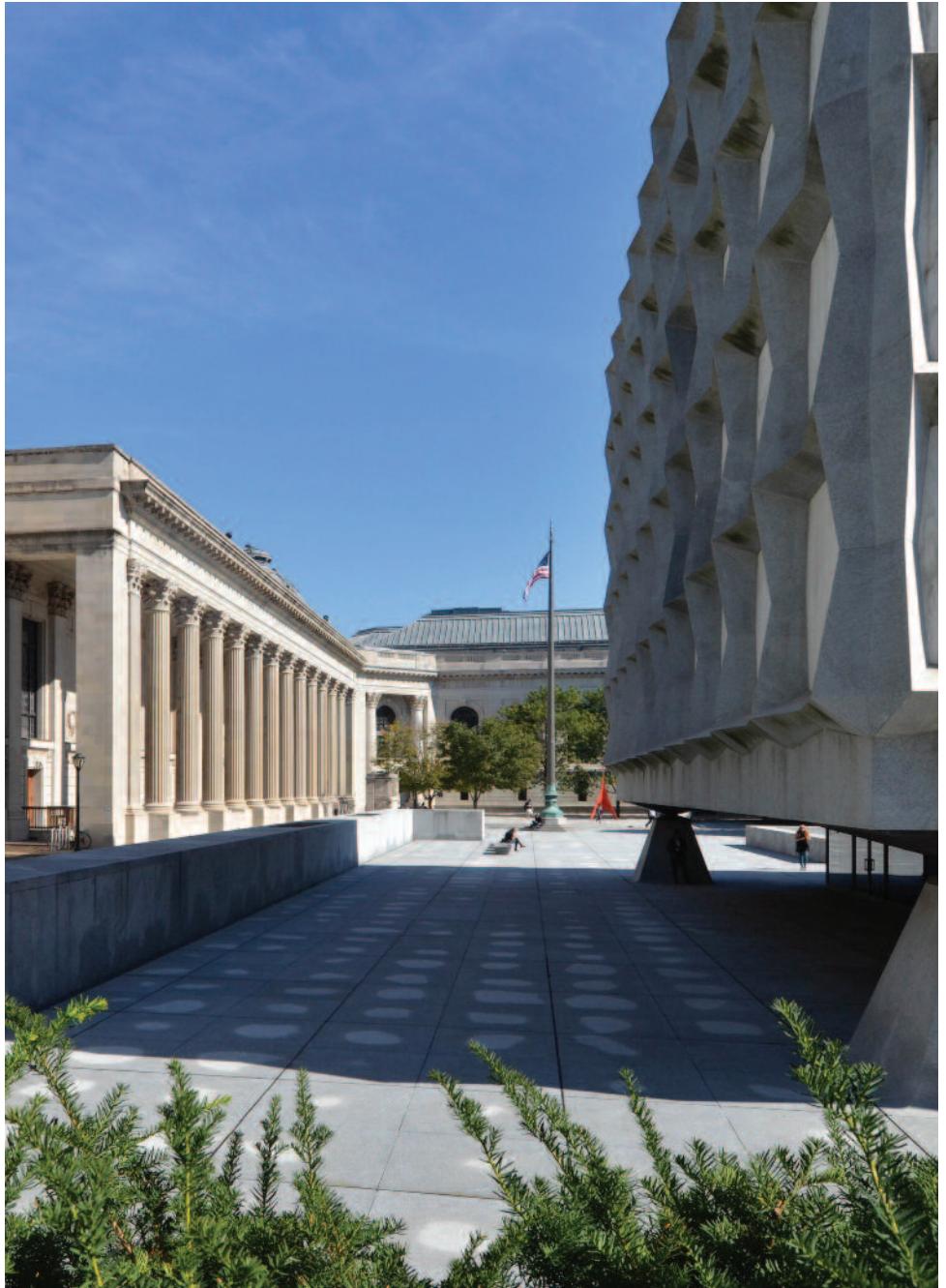
  

Asset Allocation (as of June 30)					
Absolute Return	14.5%	17.5%	21.0%	24.3%	25.1%
Domestic Equity	5.8	6.7	7.0	7.5	10.1
Fixed Income	3.9	3.9	4.0	4.0	4.0
Foreign Equity	7.8	9.0	9.9	9.8	15.2
Natural Resources	8.3	8.7	8.8	11.5	10.4
Private Equity	35.3	35.1	30.3	24.3	20.2
Real Estate	21.7	20.2	18.7	20.6	18.9
Cash	2.7	-1.1	0.4	-1.9	-3.9



## Contents

1.	Introduction	2
2.	The Yale Endowment	4
3.	Investment Policy	5
4.	Spending Policy	14
5.	Investment Performance	16
6.	Management and Oversight	18



*Front cover:*

Window of Sterling Memorial Library, east façade.

*Right:*

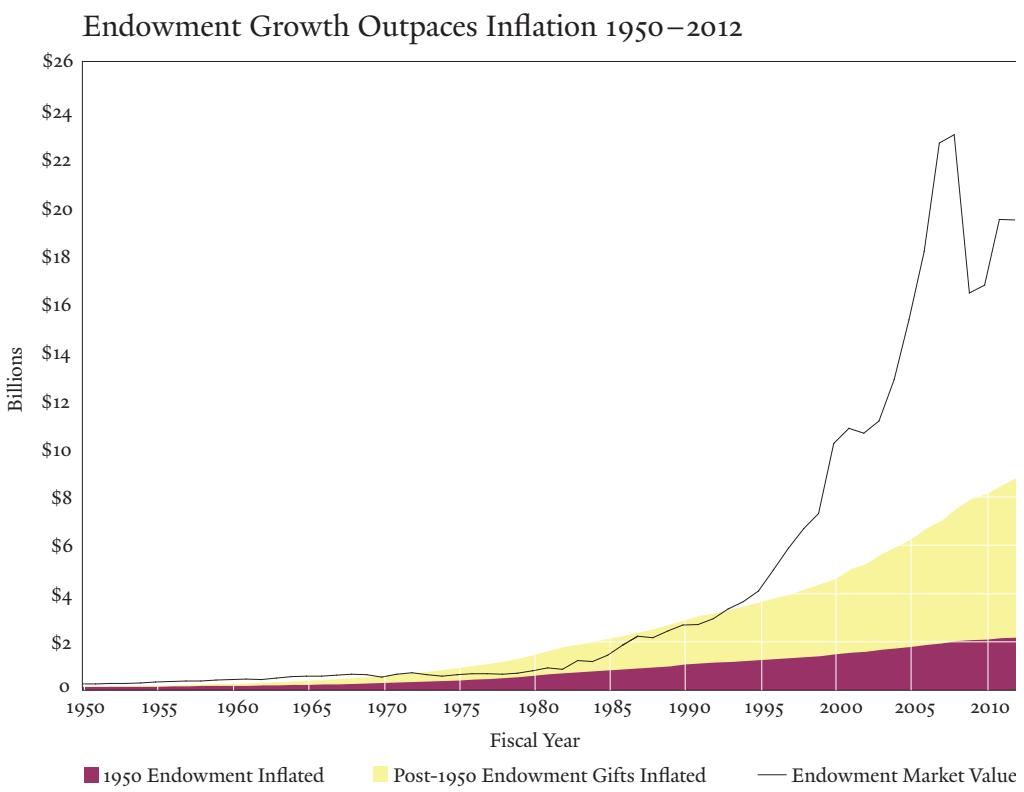
The colonnade, at left, the Alumni War Memorial to Yale men who died in World War I, forms the south façade of University Commons. The Beinecke Rare Book and Manuscript Library is seen at right.

## Introduction

# 1

Yale's Endowment generated a 4.7 percent return in fiscal 2012, producing an investment gain of \$913 million. Over the past ten years, the Endowment grew from \$10.5 billion to \$19.3 billion. With annual net investment returns of 10.6 percent, the Endowment's performance exceeded its benchmark and outpaced institutional fund indices. For nine of the past ten years, Yale's ten-year record ranked first in the Cambridge Associates universe. The Yale Endowment's twenty-year record of 13.7 percent per annum produced a 2012 Endowment value of nearly seven times the 1992 value. Yale's excellent long-term record stems from disciplined and diversified asset allocation policies and superior active management results.

Spending from the Endowment grew during the last decade from \$409 million to \$994 million, an annual growth rate of approximately 9 percent. On a relative basis, Endowment contributions expanded from 28 percent of total revenues in fiscal 2002 to 35 percent in fiscal 2012. Next year, spending will amount to \$1.03 billion, or 36 percent of projected revenues. Yale's spending and investment policies provided substantial levels of cash flow to the operating budget for current scholars while preserving Endowment purchasing power for future generations.



# Disciplined Long-Term Investing

Beginning in the mid 1980s, the Yale Endowment built a superior track record on an unconventional foundation. From the late 1980s through the mid 1990s, the Endowment's revolutionary shift to non-traditional asset classes, coupled with the selection of excellent active managers, led to outstanding returns in a variety of market conditions.

In the late 1990s, however, Yale's non-traditional portfolio seemed out of step with the markets. Fundamentals decoupled from prices, creating a difficult environment for bottom-up, research-driven managers. Diversification did not help returns as traditional large allocations to domestic equities were rewarded year in and year out, with the S&P 500 growing at a 20.6 percent annualized rate during the seven-year period ending June 30, 2000. Nevertheless, in spite of the asset allocation headwind, the Endowment outperformed its passive and active benchmarks, albeit by modest margins.

In fiscal 2000, the University's fortunes changed. Extraordinary returns from ven-

ture capital boosted Yale's returns far above institutional averages. The Endowment's outsized private equity returns offset the substantial underperformance of Yale's value-oriented, marketable-security managers, which lagged their benchmarks as stocks climbed to unprecedented levels.

After 2000, the University produced superior performance based on both superb active management and the Endowment's well-diversified asset allocation. In the aftermath of the Internet bubble, with the S&P 500 declining slightly in the eight-year period ending June 30, 2008, Yale's investment managers had the opportunity to distinguish themselves in an environment without irrational exuberance.

Yale's fortunes changed for the worse during the recent financial crisis. Markets rewarded positions that provided a safe haven, most notably full faith and credit holdings of the U.S. government. Yale's portfolio, positioned for strong long-term returns, lacked significant exposure to low expected return Treasury securities and suffered in the market meltdown. Some

institutions chose to reduce equity exposure near the market's nadir as concerns over portfolio illiquidity and volatility mounted. Yale sought instead to maintain equity exposure, aggressively managing liquidity and prudently employing debt. As markets rebounded, Yale benefited. Yale's equity positions, both liquid and illiquid, produced outsized returns as asset prices recovered post-crisis. Endowment performance since June 30, 2008 is now positive, although the Endowment value remains below peak because of spending distributions to fund University operations.

Yale's exceptional results have been achieved by adhering to a fundamentally sound investment program. Instead of chasing short-term performance, the University invests with a long-term view. Yale consistently generated superior returns by maintaining discipline, standing by quality managers, and retaining sound investments despite suffering through occasional market turbulence.



Afternoon view of the Silliman College courtyard.

## The Yale Endowment

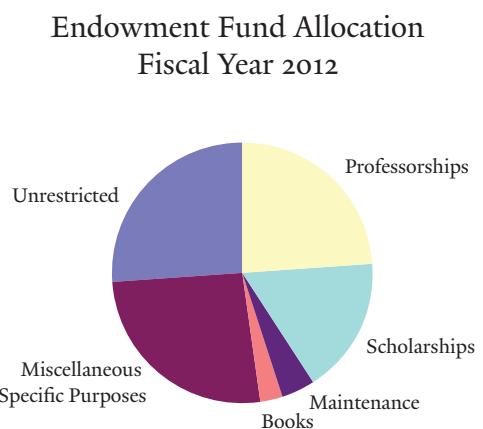
# 2

Totaling \$19.3 billion on June 30, 2012, the Yale Endowment contains thousands of funds with various purposes and restrictions. Approximately three-quarters of funds constitute true endowment, gifts restricted by donors to provide long-term funding for designated purposes. The remaining one-quarter of funds represent quasi-endowment, monies that the Yale Corporation chooses to invest and treat as endowment.

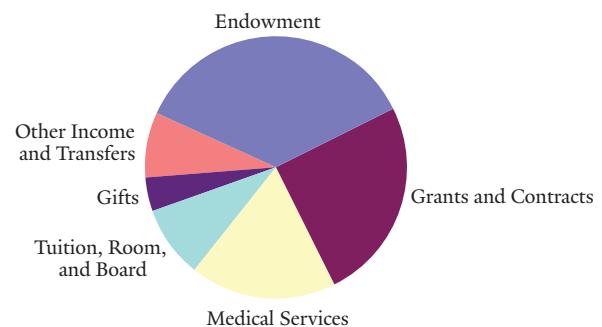
Donors frequently specify a particular purpose for gifts, creating endowments to fund professorships, teaching, and lectureships (24 percent); scholarships, fellowships, and prizes (17 percent); maintenance (4 percent); books (3 percent); and miscellaneous specific purposes (27 percent). Twenty-five 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 (35 percent), the professional schools (26 percent), the library (7 percent), and other entities (7 percent).

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 2012 the Endowment provided \$994 million, or 35 percent, of the University's \$2.852 billion operating income. Other major sources of revenues were grants and contracts of \$699 million (25 percent); medical services of \$541 million (19 percent); net tuition, room, and board of \$256 million (9 percent); gifts of \$115 million (4 percent); and other income and transfers of \$246 million (9 percent).



Operating Budget Revenue  
Fiscal Year 2012



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 quite 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:

Asset Class	June 2012 Actual	June 2012 Target
Absolute Return	14.5%	18.0%
Domestic Equity	5.8	6.0
Fixed Income	3.9	4.0
Foreign Equity	7.8	8.0
Natural Resources	8.3	7.0
Private Equity	35.3	35.0
Real Estate	21.7	22.0
Cash	2.7	0.0

The target mix of assets produces an expected real (after inflation) long-term growth rate of 6.3 percent with risk (standard deviation of returns) of 15.2 percent. Because actual holdings differ from target levels, the actual allocation produces a portfolio expected to grow at 6.2 percent with risk of 15.1 percent. 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 May 2012 meeting, Yale's Investment Committee adopted a number of changes to the University's policy portfolio allocations. The Committee approved increases in the private equity target from 34 percent to 35 percent, in the absolute return target from 17 percent to 18 percent, and in the real estate target from 20 percent to 22 percent. Those increases were funded by one-percentage-point decreases in both domestic equity and foreign equity targets and a two-percentage-point decrease in the natural resources target.

The need to provide resources for current operations as well as to preserve the purchasing power of assets dictates 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 95 percent of the Endowment is targeted for investment in assets expected to produce equity-like returns, through holdings of domestic and international securities, absolute return strategies, real estate, natural resources, and private equity.

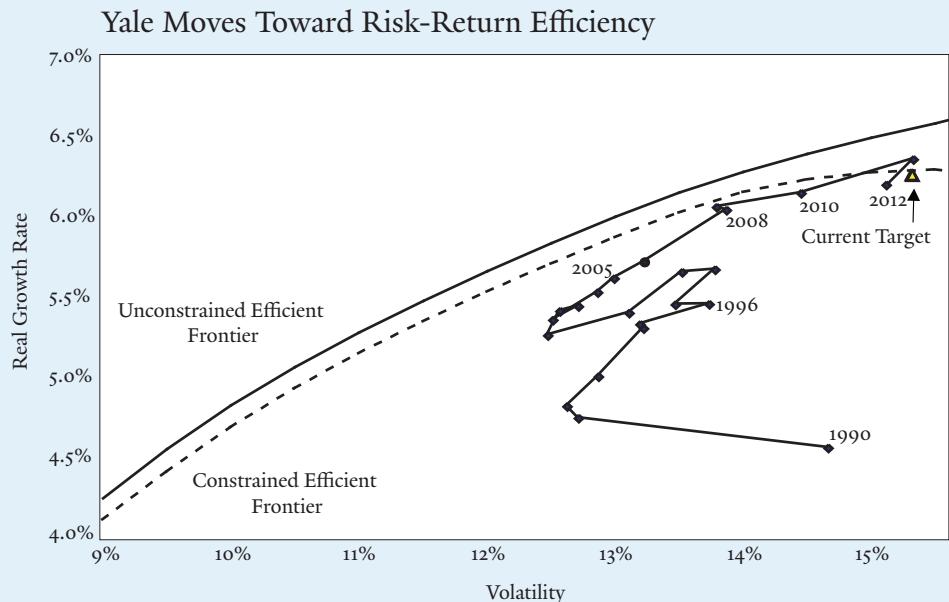
Over the past two decades, Yale dramatically reduced the Endowment's dependence on domestic marketable securities by reallocating assets to nontraditional asset classes. In 1992, 51 percent of the Endowment was committed to U.S. stocks, bonds, and cash. Today, target allocations call for 10 percent in domestic marketable securities, while the diversifying assets of foreign equity, natural resources, private equity, absolute return, and real estate dominate the Endowment, representing 90 percent 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 and lower volatility than the 1992 portfolio. 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 venture capital, leveraged buyouts, oil and gas, timber, and real estate.

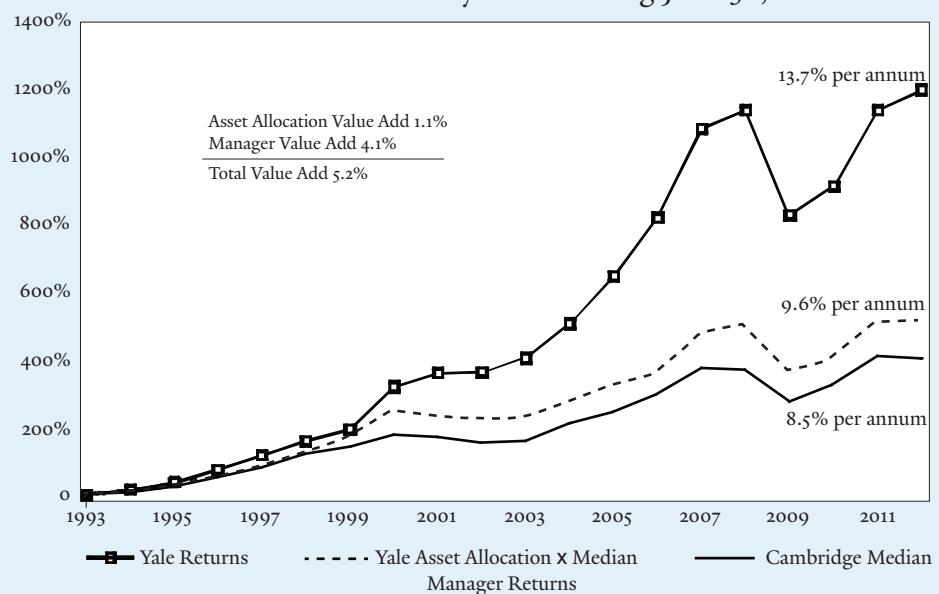
## Asset Allocation and Active Management

The Yale Investments Office seeks to meet its investment goals through prudent asset allocation and astute manager selection. Beginning in the mid 1980s, Yale's asset allocation policies, informed by quantitative analysis and market insight, shifted toward a broadly diversified portfolio with a strong orientation toward investments that promise equity-like returns and strategies that exploit market inefficiencies. By the mid 1990s, Yale had achieved most of the gains in portfolio efficiency available from a diversified, equity-oriented approach. In subsequent years, changes in allocation targets largely reflected attempts to exploit the most attractive investment opportunities in the context of sensible long-term allocation targets.

As Yale's asset allocation reached a point of relative stability and the University's peer institutions began employing similar endowment management models, manager selection became an increasingly important differentiating factor for Yale. In fact, for the twenty years ending June 30, 2012, nearly 80 percent of Yale's outperformance relative to the average Cambridge Associates endowment was attributable to the value added by Yale's active managers, while only 20 percent was the result of Yale's asset allocation. Over the past two decades, the Endowment returned a cumulative 1,204 percent relative to the Cambridge median of 413 percent, an out-performance of 5.2 percent per annum. If Yale had employed its actual asset allocation but had earned the rate of return of the median manager in each asset class, it would have outperformed the Cambridge median manager by 1.1 percent per year, the value added by Yale's asset allocation. The remaining 4.1 percent per annum of the Endowment's outperformance results from Yale's active management.



Cumulative Return for Twenty Years Ending June 30, 2012



International Center for Finance at the Yale School of Management, seen from west.

## Asset Class Characteristics

Yale's seven 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.

### *Absolute Return*

In July 1990, Yale became the first institutional investor to pursue absolute return strategies as a distinct asset class, beginning with a target allocation of 15.0 percent. 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 18.0 percent of the Endowment, below the average educational institution's allocation of 23.8 percent to such strategies. Absolute return strategies are expected to generate a real return of 5.25 percent with risk of 12.5 percent.

Unlike traditional marketable securities, absolute return investments have historically provided returns largely independent of overall market moves. Over the past ten years, the portfolio exceeded expectations, returning 10.0 percent per year with low correlation to domestic stock and bond markets.

### *Domestic Equity*

Financial theory predicts that equity holdings will generate returns superior to those of 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 18.5 percent of assets in domestic equities, Yale's target allocation to this asset class is only 6.0 percent. The domestic equity portfolio has an expected real return of 6.0 percent with a standard deviation of 20.0 percent. 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.

## *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 educational institutions typically maintain a substantial allocation to fixed income instruments, averaging 13.3 percent, Yale's target allocation to fixed income and cash is only 4.0 percent of the Endowment. Bonds have an expected real return of 2.0 percent with risk of 10.0 percent. The Barclays Capital 1-5 Year U.S. 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 seven 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. On the basis of 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. Though averse to market timing strategies, credit risk, and call options, Yale manages to add value consistently in its management of the bond portfolio.

The rotunda above Memorial Hall, with Sterling Tower (part of Sheffield-Sterling-Strathcona Hall) at left.



# Opportunity for Active Management

Yale directs active management efforts to less efficiently priced asset classes and employs less aggressive approaches for more efficiently priced assets. Given equal expenditure of time and effort, active management promises greater rewards in the infrequently traded, illiquid world of alternative assets than in the heavily traded, liquid world of traditional marketable securities.

The distribution of actively managed returns in a particular asset class serves as an indicator of the degree of opportunity for active management. Pricing inefficiencies allow managers with great skill to achieve great success, while unskilled managers post commensurately poor results. Hard work and intelligence only reap rich rewards in environments where superior information, skill, deal flow, and long-term time horizon provide an edge. Active managers in less efficient markets exhibit greater variability in returns.

The accompanying figure shows active manager returns for various asset classes. The spread in returns between the top and bottom quartiles in collections of actively managed portfolios illustrates the notion that more efficiently priced assets provide less opportunity for active managers and that less efficiently priced assets provide more opportunity.

U.S. Treasury securities, arguably the most efficiently priced asset in the world, trade in staggering volumes in markets dominated by savvy financial institutions. The Treasury market provides the benchmark for all other fixed income trading. Since nobody knows where interest rates

will be, few managers employ interest rate anticipation strategies. Without potentially powerful differentiating bets on interest rates, institutional portfolios tend to exhibit market-like interest rate sensitivity, or duration. As a result, managers generally limit themselves to modest security selection decisions, causing returns for most active managers to mimic benchmark results. The spread between top and bottom quartile results for active bond managers measures an astonishingly small 0.8 percent per annum for the decade.

Less efficiently priced securities trade in wider ranges. Stocks provide more difficult pricing challenges than bonds. Instead of discounting relatively certain fixed income cash flows, valuation of equities involves manager judgment in discounting far-less-certain corporate cash flows. Greater volatility in equity markets contributes to the wider active manager spread. Large-capitalization domestic equities represent the next rung of the efficiency ladder, with a range of 1.5 percent per annum between top and bottom quartiles.

Domestic small-capitalization stocks show a larger gap, with a range of 2.3 percent per annum between top and bottom quartiles. The progression of degree of opportunity across types of marketable securities makes intuitive sense: smaller-capitalization stocks provide natural limits on the size of stakes investors can take, often precluding larger and more sophisticated asset managers from finding and exploiting pricing inefficiencies.

Many foreign equity markets, particularly emerging markets, tend to be less

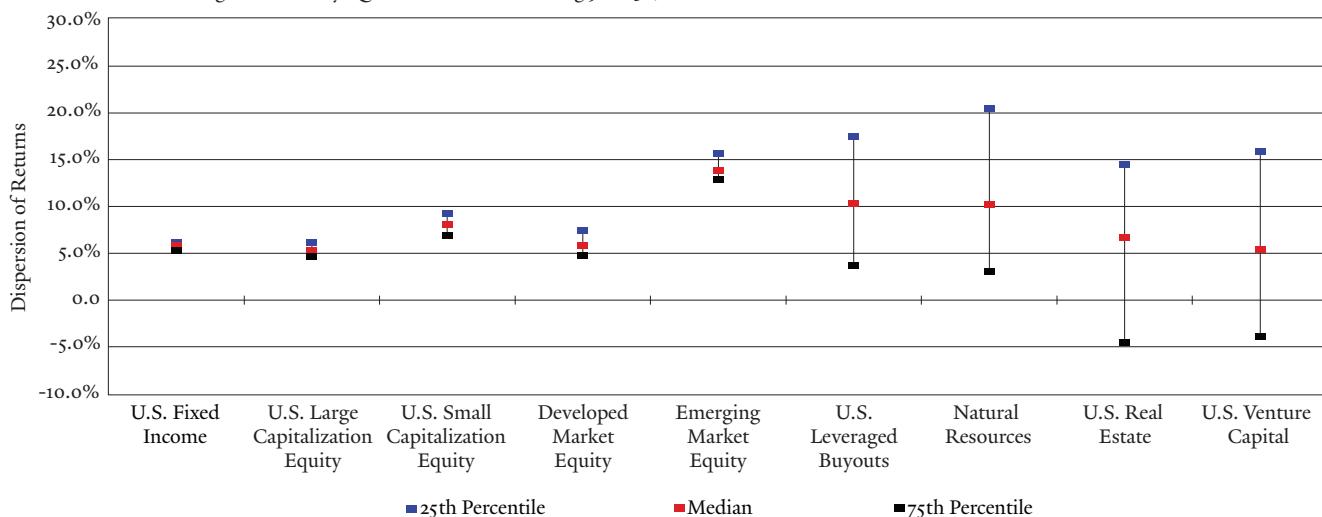
efficiently priced than U.S. markets because of their lower liquidity, spotty research coverage, and smaller local investor bases. These markets present greater opportunities for superior stock selection as demonstrated by the larger range in manager performance. The spreads between top and bottom quartile developed and emerging market managers are 2.7 percent and 2.8 percent per annum, respectively.

Illiquid assets show substantially larger annualized spreads with leveraged buyouts at 13.8 percent, natural resources at 17.4 percent, real estate at 19.1 percent, and venture capital at 19.8 percent. Lacking investable benchmarks, managers of illiquid assets succeed or fail by dint of their skills and abilities, not by the action (positive or negative) of the market. Furthermore, the operational, strategic, and company-building skills of private equity and real assets managers can add tremendous value to their portfolio holdings and differentiate the strongest performers from their lackluster peers.

Selecting top managers in private markets leads to much greater reward than identifying top managers in public markets. On the other hand, poor private manager selection can lead to extremely disappointing results as a consequence of high fees, poor performance, and illiquid positions. Careful consideration of the degree of market opportunity when formulating asset allocation policies and structuring portfolios makes an important contribution to investment performance.

## Alternative Asset Returns Exhibit Significant Dispersion

Active Manager Returns by Quartile for Periods Ending June 30, 2012 \*



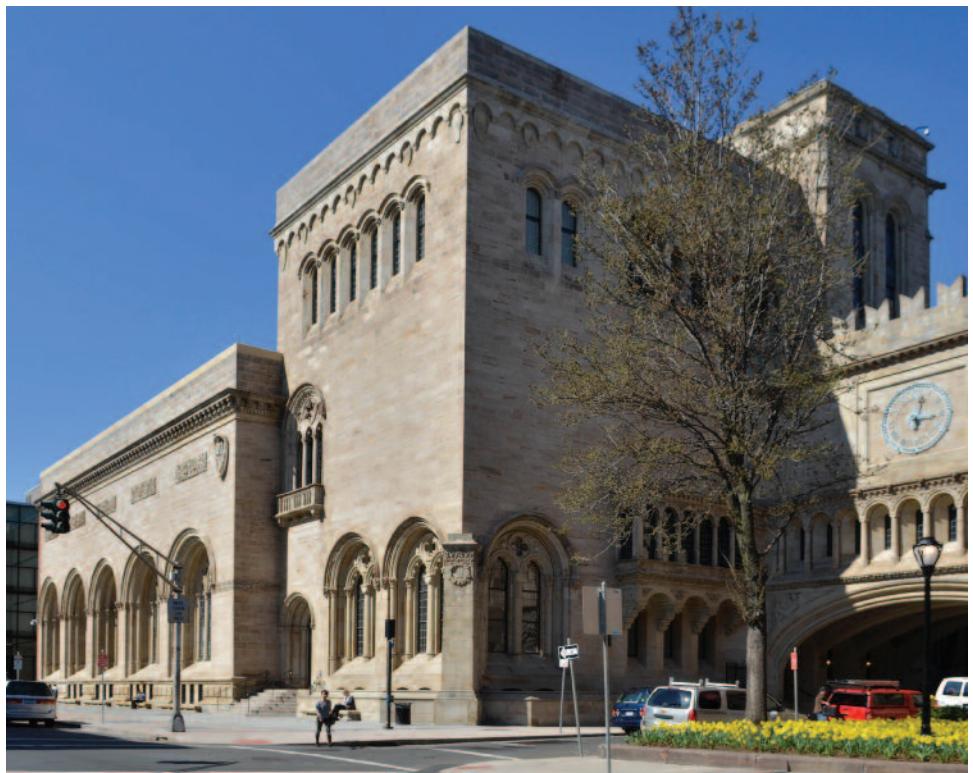
\* Fixed income and marketable equity performance based on annualized ten-year returns of BNY Mellon manager universes, adjusted for fees.

Venture capital, LBO, real estate, and natural resources returns based on annualized since-inception IRRs of Cambridge Associates manager universes.

## *Foreign Equity*

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 3.0 percent of its portfolio to foreign developed markets and 2.0 percent to emerging markets. In addition, Yale dedicates 3.0 percent of the portfolio to opportunistic foreign positions, with the expectation that holdings will be concentrated in markets that offer the most compelling long-term opportunities, particularly China, India, and Brazil. Yale's foreign equity target allocation of 8.0 percent stands below the average endowment's allocation of 18.2 percent. Expected real returns for emerging equities are 7.5 percent with a risk level of 22.5 percent, while developed equities are expected to return 6.0 percent with risk of 20.0 percent. The portfolio is measured against a composite benchmark of (a) developed markets, measured by the Morgan Stanley Capital International (MSCI) Europe, Australasia, and Far East (EAFE) Investable Market Index; (b) emerging markets, measured by a blend of the MSCI Emerging Markets Investable Market Index and the MSCI China A-Share Index; and (c) opportunistic investments, measured by a custom blended 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 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 compelling undervaluations in countries, sectors, and styles by allocating capital to the most compelling opportunities.



Yale University Art Gallery.

## *Natural Resources*

Equity investments in natural resources – oil and gas, timberland, and metals and mining – 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 7.0 percent long-term policy allocation to natural resources with expected real returns of 6.2 percent and risk of 18.2 percent. Yale’s current natural resources allocation is in line with that of the average endowment.

The natural resources portfolio is a fundamental component of the Endowment as it offers powerful diversification and promises strong returns. Superior operators have demonstrated the ability to generate excess returns over a market cycle. The inception-to-date return of Yale’s oil and gas (1986), timber (1996), and mining (2011) portfolio clocks in at an impressive 16.0 percent per annum.

## *Private Equity*

Private equity offers extremely attractive long-term risk-adjusted returns, stemming from the University’s strong stable of value-adding managers that exploit market inefficiencies. Yale’s private equity portfolio includes investments in venture capital and leveraged buyout partnerships. The University’s target allocation to private equity of 35.0 percent far exceeds the 10.9 percent actual allocation of the average educational institution. In aggregate, the private equity portfolio is expected to generate real returns of 10.5 percent with risk of 26.8 percent.

Yale’s private equity 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. Since inception in 1973, private equity investments have generated a 30.0 percent annualized return to the University.

Yale’s private equity 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.

## *Real Estate*

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 a sacrifice of expected return. Yale’s 22.0 percent long-term policy allocation significantly exceeds the average endowment’s commitment of 4.3 percent. Expected real returns are 6.0 percent with risk of 17.5 percent.

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. Since inception in 1978, the portfolio has returned 11.6 percent per annum.

The illiquid nature of private real estate and the time-consuming process of completing transactions create a high hurdle for casual investors. A critical component of Yale's investment strategy is to create strong, long-term partnerships between the Investments Office and its investment managers. In the last two decades, Yale played a critical role in the development and growth of a number of successful real estate investment organizations.

## Asset Allocations

	Yale University	Educational Institution Mean
Absolute Return	14.5%	23.8%
Domestic Equity	5.8	18.5
Fixed Income	3.9	13.3
Foreign Equity	7.8	18.2
Natural Resources	8.3	8.2
Private Equity	35.3	10.9
Real Estate	21.7	4.3
Cash	2.7	2.7

Data as of June 30, 2012

## Active Management and Career Risk

Successful active management requires a contrarian focus on inefficient markets and out-of-favor assets, which present the greatest opportunity to take advantage of mispricings and generate outsized returns. In practice, however, such contrarian behavior is rare – most fund managers herd around popular investment strategies or hew closely to their benchmarks rather than pursue strategies that would likely produce greater rewards over the long term.

Career risk is a significant driver of manager behavior. A contrarian manager's portfolio differs markedly from peer portfolios and from market benchmarks. Consequently, the contrarian manager produces results that diverge dramatically from those of peers. Although a high-quality active manager should outperform over the long term, the manager's idiosyncratic portfolio is likely to underperform at various points along the way. During those periods of underperformance, the manager will likely lose clients. Even if the contrarian investment thesis ultimately proves correct, the manager may already be out of business or

managing a much diminished portfolio. These dire business consequences push many managers to hug their benchmarks in the name of career preservation.

Prominent investor Jeremy Grantham of Grantham Mayo Van Otterloo (GMO) notes that “the main driver in risk management for most investors is, unfortunately, career and business risk. This means that controlling short-term benchmark risk dominates, and not the risk of the actual client losing real money.” Fund managers are much more likely to be fired for temporary underperformance as their long-term investments play out than they are for sustained mediocre performance in line with their peers. As John Maynard Keynes lamented in *The General Theory*, “it is better for reputation to fail conventionally than to succeed unconventionally.”

GMO experienced short-term benchmark risk first-hand with its International Intrinsic Value Strategy. The strategy attracted investors in the early 1990s as it dramatically outperformed its MSCI EAFE benchmark by 8.7 percent per year from 1990 through 1993. Poor relative returns

during the manic markets of 1994 through 1999 resulted in a client exodus, however, taking assets from a peak of \$2.8 billion in 1996 to just \$578 million by 2002. The fund robustly recovered during the 2000 through 2005 period, outperforming its benchmark by 9.5 percent per annum, but the majority of its clients were no longer around to participate in the recovery. Although the International Intrinsic Value Strategy generated returns of 11.1 percent per year from its 1987 inception through the end of 2006, outperforming MSCI EAFE by 4.1 percent per annum, few investors reaped the sustained success of GMO’s active strategy.

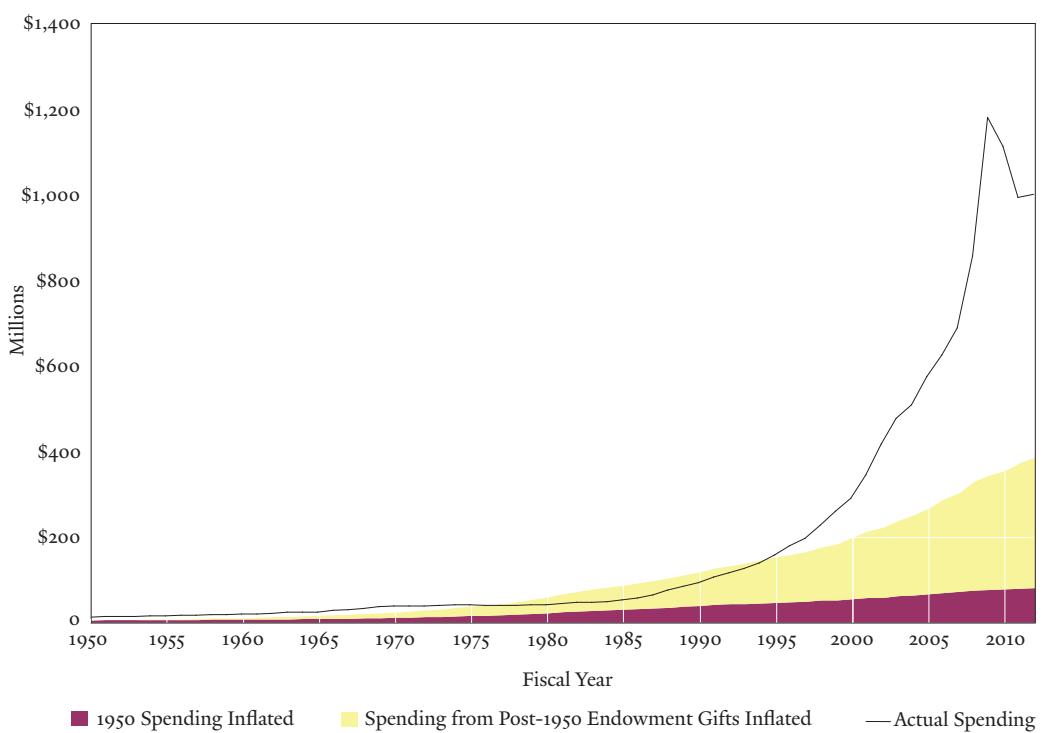
Only by building an investor base with a common investment philosophy, time horizon, resolve, and tolerance for tracking error can a manager maintain the stable capital base required to see its contrarian investments through to a successful conclusion. As many managers and institutional clients cower in the face of career risk issues, financing and executing a sensible active management program is challenging and rare.

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 substantial 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 percent. According to the smoothing rule, Endowment spending in a given year sums to 80 percent of the previous year's spending and 20 percent 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 4.5 percent, and not more than 6.0 percent, of the Endowment's inflation-adjusted market value two years prior. The smoothing rule and the 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.

Spending Growth Surpasses Inflation 1950–2012



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 spending has been less than 65 percent of the standard deviation of annual changes in Endowment value. 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.

Despite the conservative nature of Yale's spending policy, distributions to the operating budget rose from \$409 million in fiscal 2002 to \$994 million in fiscal 2012. The University projects spending of \$1.03 billion from the Endowment in fiscal 2013, representing approximately 36 percent of revenues.



Aerial view of Science Hill, with Kroon Hall at center left and Kline Biology Tower at the right.

## Investment Performance

# 5

Yale has produced excellent long-term investment returns. Over the ten-year period ending June 30, 2012, the Endowment earned an annualized 10.6 percent return, net of fees, surpassing annual results for domestic stocks of 3.8 percent and domestic bonds of 5.6 percent, and placing it among the top one percent of large institutional investors. Endowment outperformance stems from sound asset allocation policy and superior active management.

Yale's long-term superior performance relative to its peers and benchmarks has created substantial wealth for the University. Over the ten years ending June 30, 2012, Yale added \$7.3 billion relative to its composite benchmark and \$7.2 billion relative to the average return of a broad universe of college and university endowments.

### *Performance by Asset Class*

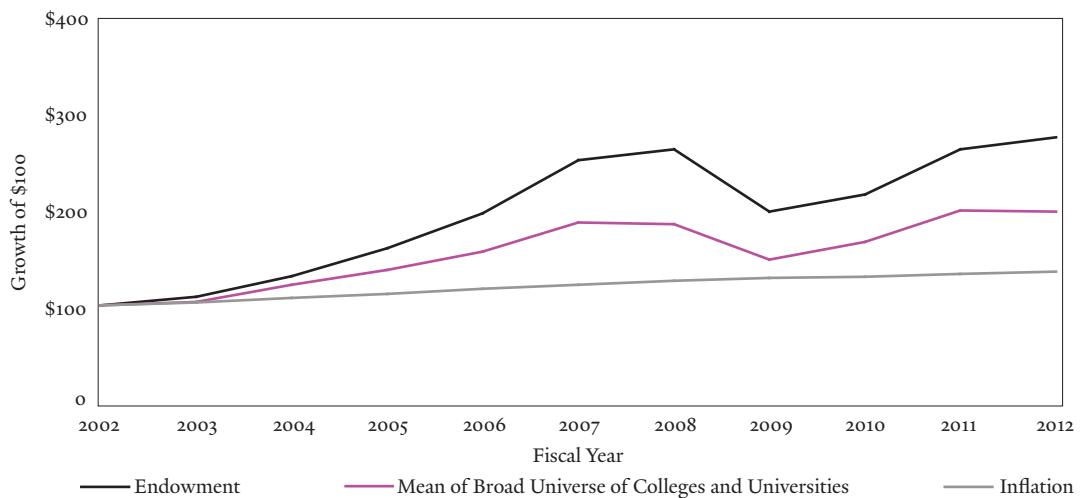
Yale's long-term asset class performance continues to be outstanding. In the past ten years, nearly every asset class posted superior returns, significantly outperforming benchmark levels.

Over the past decade, the absolute return portfolio produced an annualized 10.0 percent return, exceeding the passive Barclays 9-12 Month Treasury Index by 7.7 percent per year and besting its active benchmark of hedge fund manager returns by 4.6 percent per year. For the ten-year period, absolute return results exhibited little correlation to traditional marketable securities.

For the ten years ending June 30, 2012, the domestic equity portfolio returned an annualized 9.8 percent, outperforming the Wilshire 5000 by 3.6 percent per year and the Russell Median Manager return, net of estimated fees, by 4.5 percent 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 4.5 percent over the past decade, keeping pace with the Barclays 1-5 Year Treasury Index and exceeding the Russell Median Manager return by 0.4 percent per year. By making astute security selection decisions and accepting a moderate degree of illiquidity, the Endowment benefited from excess returns without incurring material credit or option risk.

**Yale's Performance Exceeds Peer Results**  
June 30, 2002 to June 30, 2012, 2002=\$100



The foreign equity portfolio generated an annual return of 16.6 percent over the ten-year period, outperforming its composite benchmark by 6.5 percent per year and the Russell Median Manager return by 6.8 percent per year. The portfolio's excess return is due to astute country allocation and effective security selection by active managers.

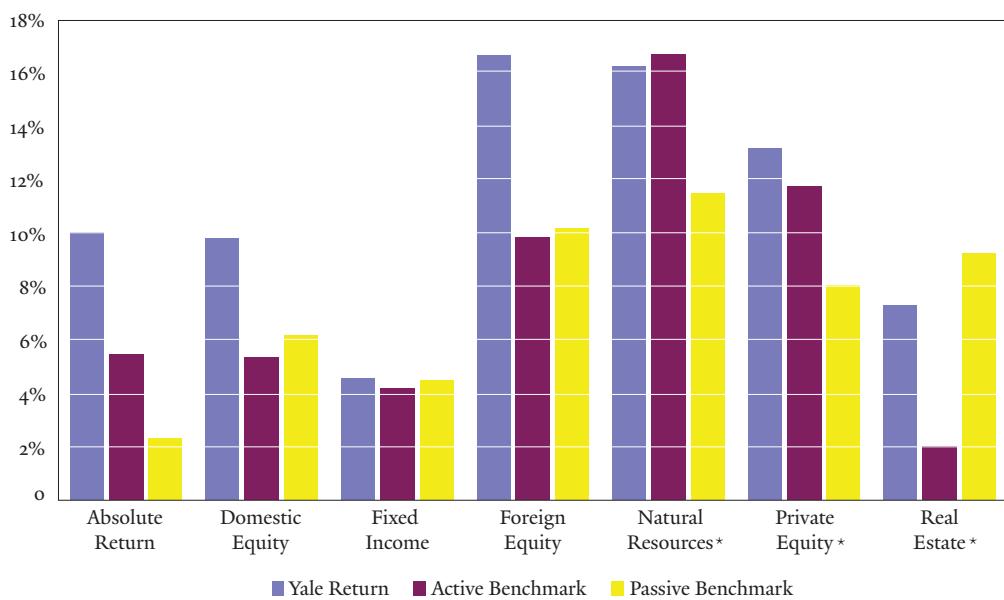
Yale's natural resources portfolio produced an annualized return of 16.2 percent over the past decade, outperforming its composite passive benchmark by 4.7 percent per year though lagging the Cambridge Associates natural resources manager pool by 0.4 percent per year. Yale's strong performance results from its partnership with superior operators.

Private equity earned 13.2 percent annually over the last ten years, outperforming the composite passive benchmark by 5.2 percent per year and outperforming the return of a pool of private equity managers compiled by Cambridge Associates by 1.4 percent per year. Since inception in 1973, the private equity program has earned an astounding 30.0 percent per annum.

Real estate generated a 7.3 percent annualized return over the ten-year period, underperforming the MSCI REIT Index by 1.9 percent per year, but outperforming a pool of Cambridge Associates real estate managers by 5.3 percent per year. Yale's active outperformance is due to successful exploitation of market inefficiencies and timely pursuit of contrarian investment strategies.

### Yale Asset Class Results Beat Most Benchmarks

June 30, 2002 to June 30, 2012



\*Yale Returns and Active Benchmarks are dollar-weighted

#### Active Benchmarks

*Absolute Return:* Dow Jones Credit Suisse Composite  
*Domestic Equity:* Frank Russell Median Manager, U.S. Equity  
*Fixed Income:* Frank Russell Median Manager, Fixed Income  
*Foreign Equity:* Frank Russell Median Manager Composite, Foreign Equity  
*Natural Resources:* Cambridge Associates Natural Resources  
*Private Equity:* Cambridge Associates Composite  
*Real Estate:* Cambridge Associates Real Estate

#### Passive Benchmarks

*Absolute Return:* Barclays 9-12 Mo Treasury  
*Domestic Equity:* Wilshire 5000  
*Fixed Income:* Barclays 1-5 Yr Treasury  
*Foreign Equity:* Blend of MSCI EAFE Investable Market Index, MSCI Emerging Markets Investable Market Index + MSCI China A-Shares, Custom Opportunistic Blended Index  
*Natural Resources:* Blend of Custom Timber REIT Basket, S&P O&G Exploration & Production Index, HSBC Global Mining Index  
*Private Equity:* Blend of Russell 2000, Russell 2000 Technology, MSCI ACWI ex-US Small-Cap Index  
*Real Estate:* MSCI REIT Index

## Management and Oversight

# 6

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.

### *Investment Committee*

Douglas A. Warner, III '68

*Chairman*

*Former Chairman*

*J.P. Morgan Chase & Co.*

Byron G. Auguste '89

*Director*

*McKinsey & Company*

G. Leonard Baker '64

*Managing Director*

*Sutter Hill Ventures*

Joshua Bekenstein '80

*Managing Director*

*Bain Capital*

Ben Inker '92

*Director of Asset Allocation*

*GMO*

Paul Joskow '72 PH.D.

*President*

*Alfred P. Sloan Foundation*

Stefan Kaluzny '88

*Managing Director*

*Sycamore Partners*

Richard C. Levin '74 PH.D.

*President*

*Yale University*

Kevin Ryan '85

*Founder and CEO*

*Gilt Groupe*

Carter Simonds '99

*Managing Director*

*Blue Ridge Capital*

Dinakar Singh '90

*CEO and Founding Partner*

*TPG-Axon Capital*

## Manager Attributes

Manager selection lies at the heart of Yale's active management strategy. The Endowment has built longstanding investment relationships with talented active managers that exploit a rich set of investment opportunities across an array of market sectors, strategies, and asset classes. Each year, the Investments Office meets with countless prospective investment managers, relentlessly evaluating opportunities to add new high-quality managers to Yale's portfolio. When the Investments Office identifies a promising fund manager, it conducts thorough due diligence to evaluate the group's investment acumen and strategy, as well as its character and ethics, often spending several months getting to know a team prior to funding a new investment.

Yale searches for intelligent and dedicated managers that have high integrity, sound investment philosophies, strong track records, superior organizations, and sustainable competitive advantages. Yale strives for excess returns by building sizeable relationships with firms that have a long-term orientation, as well as a rigorous investment process and exceptional bottom-up research capabilities. Successful managers execute a program that provides the conviction necessary to hold concentrated portfolios. The University seeks managers that exhibit significant discipline in their investment processes, that deploy

capital only when they have found inefficiencies, and that exploit compelling opportunities for attractive returns.

Yale's marketable managers focus primarily on making attractive bottom-up, security-specific investments and frequently concentrate their efforts on companies with earnings driven by factors that can be reasonably forecast, such as production, costs, distribution, and pricing. Yale's active managers tend to be attracted to less widely followed stocks and less efficiently priced markets, which offer better opportunities for superior managers to develop differentiated insights and identify meaningfully mispriced securities.

In Yale's private equity, real estate, and natural resources portfolios, the Investments Office seeks cohesive and motivated groups with a proven ability to create value independent of underlying market conditions. Ideal real estate partners possess superior operating and financial capabilities and focus on specific geographies or property types. Similarly, Yale seeks private equity firms that work closely with their portfolio companies to create fundamentally more valuable entities, relying only secondarily on financial engineering to generate returns.

A critical component of Yale's investment strategy is the creation of long-term partnerships with strong alignments of

interest. The Investments Office targets employee-owned firms to ensure that incentive compensation appropriately benefits the investment team. Yale looks for a substantial co-investment from the general partners, which helps foster prudent decision-making and risk assessment. Yale aims to partner with firms that strive for investment excellence and that are willing to limit assets under management, ensuring flexibility to exploit attractive opportunities.

Yale often looks to develop close relationships with firms early in their life cycles. As an investment management organization progresses through its life cycle, Yale monitors the relationship carefully to ensure that interests continue to coincide, that assets under management remain at reasonable levels, and that the manager remains motivated and capable of earning substantial returns. The University frequently supports emerging investment groups that are not well-known, brand-name players. In some cases Yale creates proprietary opportunities by helping a firm enter the world of institutional fund management. The University seeks to build long-term relationships with high-quality investment managers, as evidenced by the average tenure of eleven years for managers in the Endowment portfolio.



North façade of Branford Court.

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 twenty-six professionals.

## *Investments Office*

David F. Swensen '80 PH.D. <i>Chief Investment Officer</i>	R. Alexander Hetherington '06 <i>Associate Director</i>
Dean J. Takahashi '80, '83 MPPM <i>Senior Director</i>	Celeste P. Benson <i>Senior Portfolio Manager</i>
Peter H. Ammon '05 M.B.A., '05 M.A. <i>Director</i>	Matthew S. T. Mendelsohn '07 <i>Senior Associate</i>
Alexander C. Banker <i>Director</i>	John V. Ricotta '08 <i>Senior Associate</i>
Alan S. Forman <i>Director</i>	Cain P. Soltoff '08 <i>Senior Associate</i>
Lisa M. Howie '00, '08 M.B.A. <i>Director</i>	David S. Katzman '10 <i>Senior Financial Analyst</i>
Timothy R. Sullivan '86 <i>Director</i>	Nilesh V. Vashee '09 <i>Senior Financial Analyst</i>
Kenneth R. Miller '71 <i>Senior Associate General Counsel</i>	Xinchen Wang '09 <i>Senior Financial Analyst</i>
Stephanie S. Chan '97 <i>Associate General Counsel</i>	Philip J. Bronstein '12 <i>Financial Analyst</i>
Deborah S. Chung <i>Associate General Counsel</i>	Florence R. Dethy '11 <i>Financial Analyst</i>
J. Colin Sullivan <i>Associate General Counsel</i>	Sebastian K. Serra '11 <i>Financial Analyst</i>
Carrie A. Abildgaard <i>Associate Director</i>	Kaiyuan Wang '11 <i>Financial Analyst</i>
Michael E. Finnerty <i>Associate Director</i>	David Y. Zhang '12 <i>Financial Analyst</i>

---

## 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.

Pages 8-13

Educational institution asset allocations and returns from Cambridge Associates.

Page 10

Returns from BNY Mellon and Cambridge Associates.

Page 13

Jeremy Grantham quotation from GMO, *Letters to the Investment Committee VII*, April 2006. International Intrinsic Value Strategy data provided by GMO.

John Maynard Keynes quotation from *The General Theory of Employment, Interest and Money* (Harcourt and Brace, 1964).

This section draws on David Swensen's *Pioneering Portfolio Management* (Simon and Schuster, 2009).

## Photo Credits

Front cover

Steve Dunwell Photography, Inc., Boston

Additional photographs

Michael Marsland, Yale Office of Public Affairs and Communications

Design

Strong Cohen/D. Pucillo



Silliman College tower.



Silliman College



Sterling Memorial Library



Pierson College



Calhoun College



School of Medicine



Berkeley College



Davenport College



Hall of Graduate Studies



Timothy Dwight College