

Endowment & Similar Funds

Investment Review for Calendar 2010

Submitted March 2011

This cover page provides a summary overview of the Pennsylvania State University Endowment and Similar Funds for calendar Year 2010. The second page summarizes Endowment-related data that is discussed on the remaining pages, along with in depth Endowment performance analysis.

Executive Overview

Endowment Performance

Annualized *net* investment returns for the Penn State University Endowment (adjusted for the impact of gifts and spending, and after external investment management expenses) are shown below for periods ending December 31, 2010:

<u>Calendar 10</u>	<u>3 Years</u>	<u>5 Years</u>	<u>10 Years</u>
14.1%	-0.3%	5.6%	5.1%

Endowment & Similar Funds Market Value (pg 3)

Penn State University's Endowment was valued at \$1,546 million as of December 31, 2010, with an additional \$116 million in Similar Funds.

Review of Investment Markets (pg 4)

The graph below compares respective returns for 12-months ending December 31, 2009 and 2010 for the S&P500, MSCI All Country World (ACW) ex-US, 91-day US Treasury Bills, Barclays Aggregate Bond, and publicly-traded Real Estate Investment Trusts (REITs) Indexes. As shown below, both US and non-US public equity returns for 2010 lagged their especially strong 2009 performances, while domestic real estate (REITs) repeated the previous year's stellar performance. For both years, bonds were modestly positive while T-Bill returns were negligible.

Investment Diversification and Asset Mix (pg 5)

At calendar year-end, 60% of Endowment assets were invested in public equities (domestic and foreign), 17% in fixed income/cash, and 23% in private capital partnerships (venture capital, private buyouts, real estate, and natural resources).

Comparative Fund Performance (pg 6)

Penn State's Endowment returned 14.1% net for the year ending December 31, 2010 versus 12.5% for the Passive Policy Portfolio, largely due to strong public equity manager performance relative to passive benchmarks. The Endowment's 3- and 5-yr relative performance was slightly better than respective passive benchmarks.

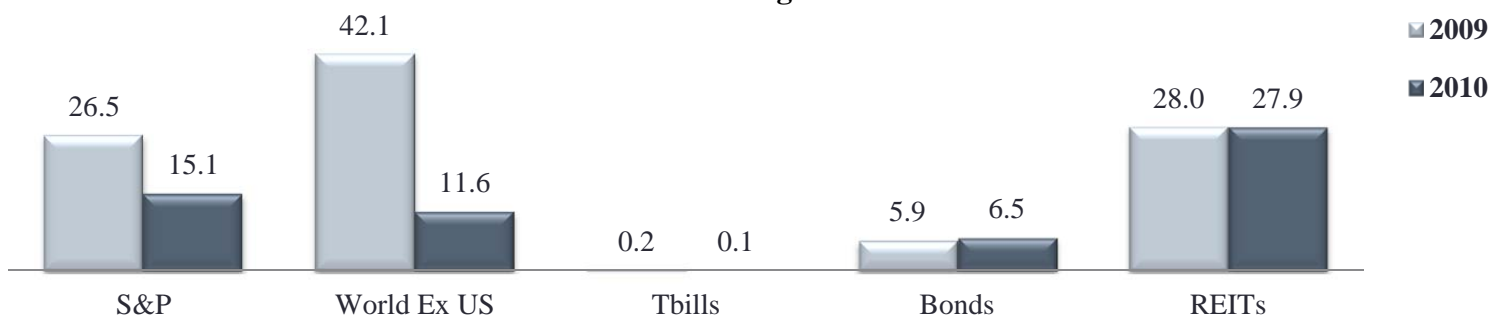
Endowment Liquidity (pg 7)

With approximately one-half of its assets convertible to cash in a matter of days, the Endowment maintains adequate liquidity to satisfy anticipated cash requirements.

Endowment Performance and Spending (pg 8)

The Penn State Endowment's average annual net returns of 5.1% and 9.0% over the last 10 and 20 years, respectively, have allowed the Endowment to maintain inflation-adjusted spending while achieving long-term intergenerational equity.

Investment Market Returns
Calendar Years Ending December 31



5-Year Endowment Facts and Figures

	Annual Periods Ending December 31				
	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>
<i>Investment Performance</i>					
Endowment ¹ (annualized net returns)	14.1%	13.0%	-22.7%	13.9%	16.2%
<i>Market Values</i> (\$ millions)					
Endowment ¹	1,545.8	1,356.5	1,216.4	1,579.9	1,397.9
<u>Similar Funds</u> ²	<u>116.5</u>	<u>103.2</u>	<u>90.4</u>	<u>116.9</u>	<u>109.9</u>
Endowment and Similar Funds	1,662.3	1,459.7	1,306.8	1,696.8	1,507.8
Gifts & Other Additions (\$ mils)	71.4	63.4	63.6	42.8	59.7
Current Spending (\$ mils)	62.5	64.3	62.4	60.6	56.0
<p>1) Endowment assets over which Penn State's Office of Investment Management (OIM) has investment responsibility, as approved by the Penn State Investment Council (PSIC).</p> <p>2) Similar Funds — includes donor-restricted and deferred gifts, plus funds in transit to Endowment.</p>					

Penn State Investment Council (PSIC) Meetings

February 26:

- Investing \$50 million with JKMilne Asset Management in Core Fixed Income.

June 25:

- Investing \$25 million with Chilton Investment Company in Global Natural Resources Long-Short Strategy.
- Committing \$10 million each to Oaktree Capital Management Power Opportunities Fund III L.P. and Commonfund Capital Venture Partners IX L.P.

August 13:

- Committing \$15 million to Wellspring Capital Partners V, L.P.

October 29:

- Maintain Penn State's Endowment spending at a 4.5% annual rate.
- Committing \$10 million to Yorktown Energy IX, L.P.
- Committing \$15 million to EnCap Energy VIII, L.P.

December 12:

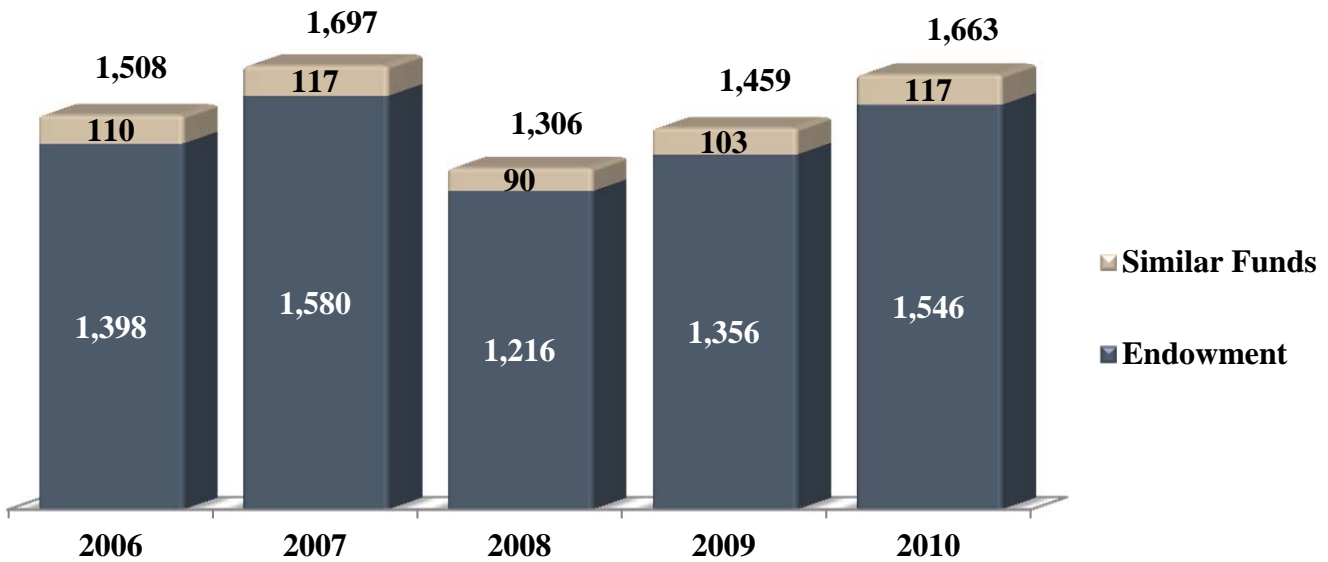
- Committing \$15 million to Oaktree Real Estate Opportunities Fund V, L.P.

Please note that commitments made to Limited Partnerships (LPs) are not immediately invested and are called (paid in) over several years until commitment is satisfied, except as noted.

Endowment and Similar Funds Market Value

As of December 31, 2010, Penn State’s Endowment was valued at \$1,545.8 million. Non-pooled assets — charitable remainder trusts, charitable gift annuities, and other life income funds in addition to some donor restricted funds, as well as cash in transit to the Endowment — accounted for an additional \$116.5 million, bringing Penn State’s Endowment and Similar Funds to \$1,662.3 million. The annual market values for the University’s Endowment and Similar Funds for each of the last five calendar years ending December 31 are shown below:

Endowment and Similar Funds Market Value
Calendar Years Ending December 31
(\$ millions)



From the graph above:

The Endowment and Similar Funds’ total value increased by \$203.6 million during calendar 2010. As seen in the table on page 2, new gifts added to the Pool over the last 12 months totaled \$71.4 million, while Endowment program support (spending) amounted to \$62.5 million.

The total Endowment’s \$154.3 million increase since December 31, 2006 reflects new gift contributions and reinvested investment earnings, *after* providing cumulative program support of \$305.8 million.

Inflows of new gifts, along with positive investment returns, have resulted in a cumulative 10.23% increase in the Endowment’s value, net of spending, from December 31, 2006 to December 31, 2010.

Review of Investment Markets in Calendar 2010

Following a year of strong double-digit gains, equities in calendar 2010 again handily outperformed fixed income returns, while non-US indexes generally lagged domestic equity markets. The performance of investment markets that directly impact Penn State University's Endowment is discussed below.

US Equities

The S&P 500 returned 15.1% for the 12 months ending December 31, 2010, compared to 26.5% for calendar 2009, while the large-cap biased Dow Jones Industrial Index returned 14.1% and 22.7%, respectively. Small-capitalization stocks, as measured by the Russell 2000 Index, returned 26.9% versus 27.2% last year. The Nasdaq Index's 16.9% return was comparable to the broad domestic indexes in calendar 2010, but much less than its 2009 return of 43.9%.

Non-US Equities

Equities outside the United States generally underperformed those in the US as the Morgan Stanley All Country World (ACW) Index ex-US returned 11.6% for the 12-month period ending December 31, 2010. This was well below its calendar 2009 return of 42.1%. Emerging market equities in less developed countries returned 19.2% over the last 12 months, well below their 79.0% return in calendar 2009.

Fixed Income

Barclays Capital Aggregate Bond Index (various maturities of US Government and non-government domestic bonds) returned 6.5% in calendar 2010 versus 5.9% in 2009. US Treasury Bonds returned 9.4% in calendar 2010 versus -3.6% a year earlier.

For calendar 2010, 91-day Treasury Bills earned 0.1% versus 0.2% one year ago and Treasury Inflation Protected Securities (TIPS) returned 6.3% in calendar 2010 compared to 11.4% in calendar 2009.

Real Estate

Publicly-traded Real Estate Investment Trusts (REITs) returned 27.9% for the calendar year ended December 2010 compared to 28.0% in 2009. Privately-held real estate investment partnerships, as measured by the largely commercial property NCREIF Index, returned 5.8% in calendar 2010 compared to -22.1% in 2009.

Alternatives

Private Equity Buyouts and Venture Capital increased as well, averaging returns of 18.0% and 8.3%, respectively, for the 12 months ending September 30, 2010 (private capital partnerships are reported on a 3-month lag). In the previous 12-month period ending September 30, 2009, Private Equity returned -9.9%, while Venture Capital lost -12.9%. By comparison, the Russell 2000 Index of small-capitalization stocks returned 13.3% for the 12 months ending September 30, 2010 and -9.5% for the year ending September 30, 2009.

Economic and Market Outlook

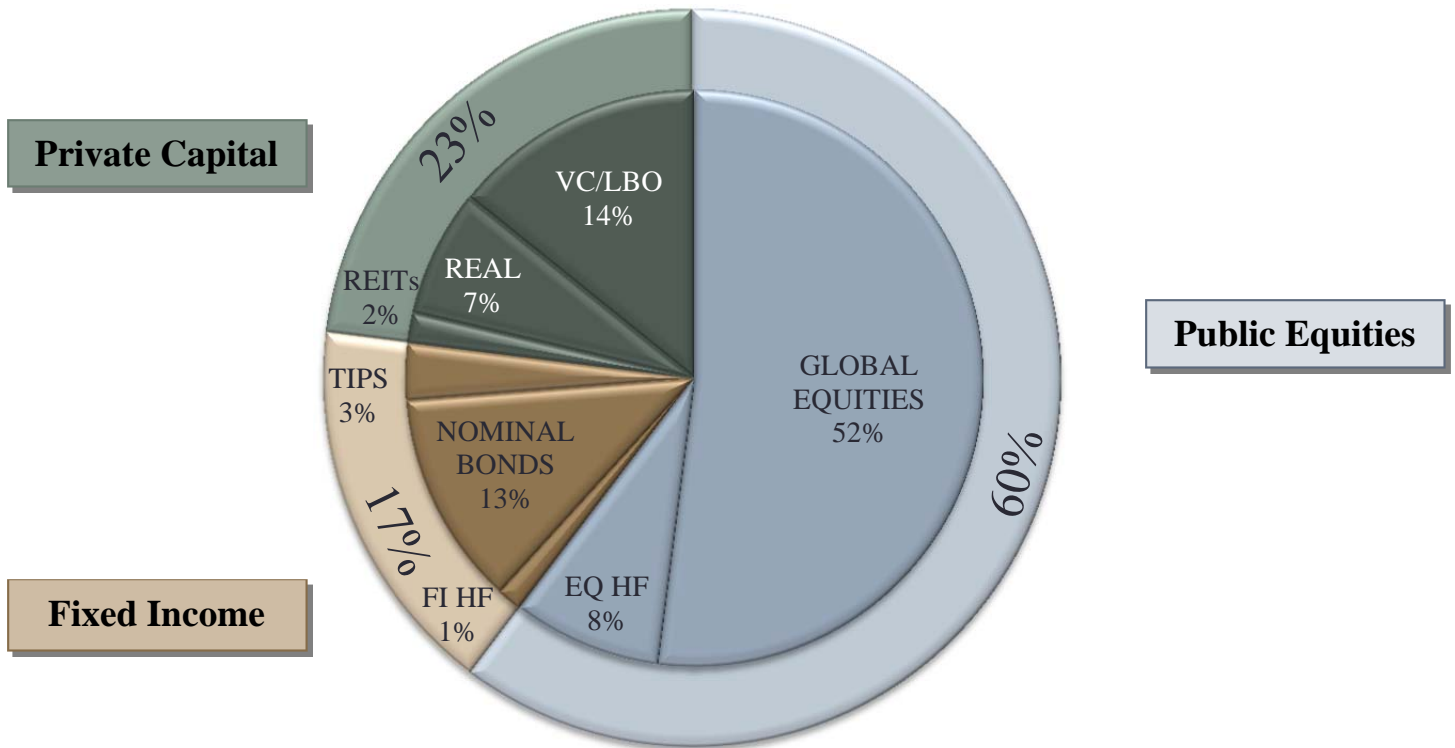
In the 12 months ending December 31, 2010, global equity markets continued the rally that began in March of 2008. However, unlike 2009, US equities lead the world indexes. Fixed income markets provided a fourth consecutive year of positive returns, as the Federal Reserve continued to hold down interest rates to alleviate credit market distress brought on by the decline in housing prices and the accompanying deleveraging. Looking ahead, expectations for domestic corporate profits have brightened in the face of improving credit concerns and a recovering economy.

Penn State's well-diversified endowment portfolio — consisting of public equities, private partnerships, bonds, and hedge funds in addition to inflation-sensitive "real assets" — continues to be the most appropriate investment approach for long-term growth and sustainable spending.

Investment Diversification and Asset Mix

Asset allocation is a primary determinant of investment performance and risk control. The Endowment's asset mix combines three very broad asset categories - public equities, private capital, and fixed income - to maximize potential returns, while tempering volatility. Reflecting a desire to support generous spending and the need to preserve purchasing power in light of changing market conditions, the Penn State Investment Council (PSIC) regularly reviews the Endowment's investment policy.

In the graph below, the three macro categories – public equities, fixed income, and private capital – are shown in the outermost ring with their December 31, 2010 allocations of 60%, 17%, and 23%, respectively.



At a more granular level, the Endowment's diversified portfolio includes a variety of asset classes that comprise the three macro categories, as shown by the slices within the inner pie (percentages are rounded):

- 60% in Public Equities includes publicly-traded US (37%) and non-US (15%) common stocks, and equity-oriented hedge funds (8%).
- 17% in Fixed Income includes 13% in nominal bonds (largely US government bonds), 3% in Treasury Inflation Protected Securities (TIPS), and 1% in an absolute-return hedge fund.
- 23% in Private Capital includes the following private partnerships: 14% private equity (venture capital, leveraged buy-outs, distressed-debt), and 9% in real assets (private and public real estate, and energy).

The individual asset classes above represent market values as of December 31, 2010; however, the percentages fluctuate over time depending on market trends and allocations approved by the Penn State Investment Council.

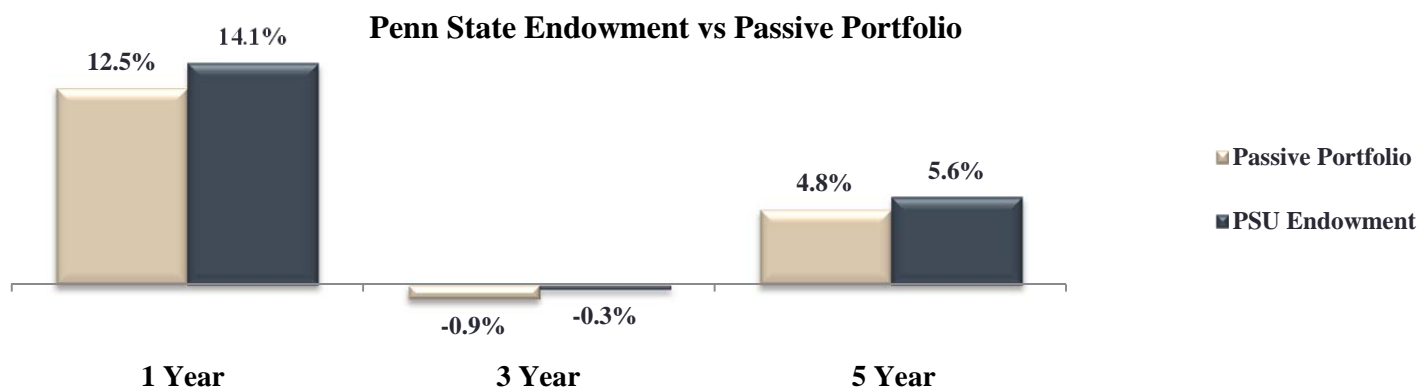
The approximately 83% currently allocated to public equities and private capital is intended to take advantage of capital growth and purchasing power protection offered by equity-type investments. On the other hand, the 17% invested in fixed income is intended to provide diversification and stability during times of market turbulence.

Endowment Performance Compared to Passive Portfolio

The Endowment's investment performance is measured against a hypothetical *Passive Portfolio*, comprised of three broad asset categories: Public Equities, Private Capital, and Fixed Income. This passive portfolio serves as a blended benchmark against which the performance of the actual, actively-managed Endowment is monitored. In the table below, the respective static weightings of the three major asset categories, along with respective sub categories, are associated with corresponding market benchmarks to generate *Passive Portfolio* returns over 1-, 3-, and 5-year horizons:

<u>Asset Class</u>	<u>Benchmark</u>	<u>Weighting</u>	- Annualized Benchmark Returns -		
			<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>
Public Equities (listed on stock exchanges)					
US Equities	S&P 500 Index	40%	15.1	-2.9	2.3
Non-US Equities	All Country World ex US Index	15	11.6	-4.6	5.3
Private Capital (non-marketable alternatives)					
Private Equity	CA Private Equity Composite	15%	18.0	0.9	10.4
Venture Capital	CA Venture Capital Composite	5	8.3	-2.1	4.6
Private Real Estate	NCREIF Index	5	5.8	-4.6	3.7
Fixed Income/Cash					
Total US Bonds	Barclays Aggregate Bonds	<u>20%</u>	<u>6.5</u>	<u>5.9</u>	<u>5.8</u>
Total Passive Portfolio (net)		100%	12.5%	-0.9%	4.8%

Note: the above categories / sub-categories are very broad and are assumed to be constant over the entire 5-yr period, much like a traditional balanced portfolio. As shown on the previous page, the actual endowment portfolio is comprised of several separate portfolios whose periodic weights vary as a result of fluctuating market returns.



As shown above, Penn State's Endowment returned 14.1% net for calendar 2010, surpassing the 12.5% return of the Passive Portfolio. For the trailing 3- and 5-years, the Passive Portfolio would have realized annualized returns of -0.9% and 4.8%, respectively.

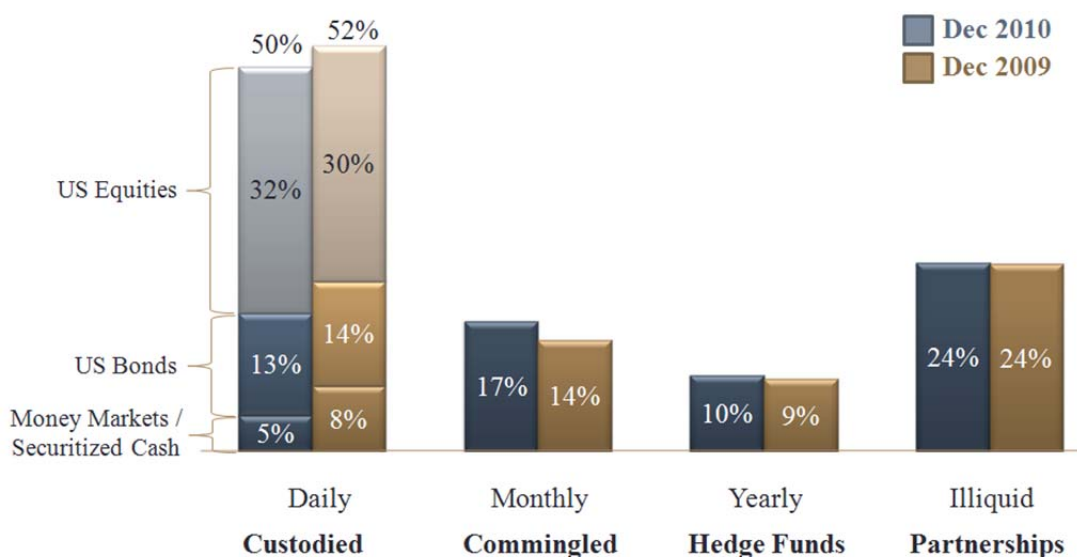
By comparison, the Endowment's actual 3- and 5-year returns outperformed in each period, netting -0.3% and 5.6%, respectively. Overall, this shows that the Endowment's investment managers augmented the performance relative to passive benchmarks.

The Passive Portfolio provides a guidepost to help achieve long-term results that are consistent with the twin objectives of purchasing-power preservation, along with stable endowment spending. The Endowment's performance varies from the *static* Passive Portfolio as a consequence of several factors, including but not limited to the following: timing of cash-flows into and out of the Endowment, tactical shifts in asset mix, and individual investment manager performance.

Endowment Liquidity

The financial crisis that erupted in 2008 was characterized, among other considerations, by lack of liquidity. Many institutions were unable to meet current obligations due to lack of available cash. This was exacerbated by their inability to readily convert some assets to cash because of reduced trading volumes in some financial instruments.

In the graph below, Endowment assets are classified according to how quickly they can be converted to cash. Most securities listed on exchanges or traded over-the-counter, and held at our custodian bank in separately managed accounts, can be liquidated on a daily basis (typically 1- and 3-day settlement for bonds and stocks, respectively). Commingled portfolios, i.e., collectively-managed investment pools of publicly-traded securities, are eligible for purchase or sale once a month. Hedge fund partnerships are typically open for at least partial liquidation once a year, with some having more and/or less frequent liquidity “windows.” Non-marketable partnerships are considered illiquid primarily because of the inability to determine with certainty future cash flows.



Observations from the blue (left) bars of each of the four pairs above for the period ending December 31, 2010:

- 50% percent of Endowment assets are invested in stocks and bonds that can be converted to cash in a matter of days. Of this, 1% to 2% is held in money market accounts, along with another 4% to 5% in “securitized cash” (i.e., fully collateralized equities/treasuries futures), making it less likely other assets will need to be liquidated to satisfy day-to-day cash requirements.
- Commingled portfolios, primarily non-US public equity portfolios, comprise 17% of Endowment assets and can be converted to cash monthly or less.
- 10% of Endowment assets are invested in six hedge fund partnerships and can be at least partially converted to cash annually or in some cases quarterly.
- 24% percent of Endowment assets are invested in 90 different partnerships whose assets are conservatively considered illiquid because of uncertain timing of future cash flows.

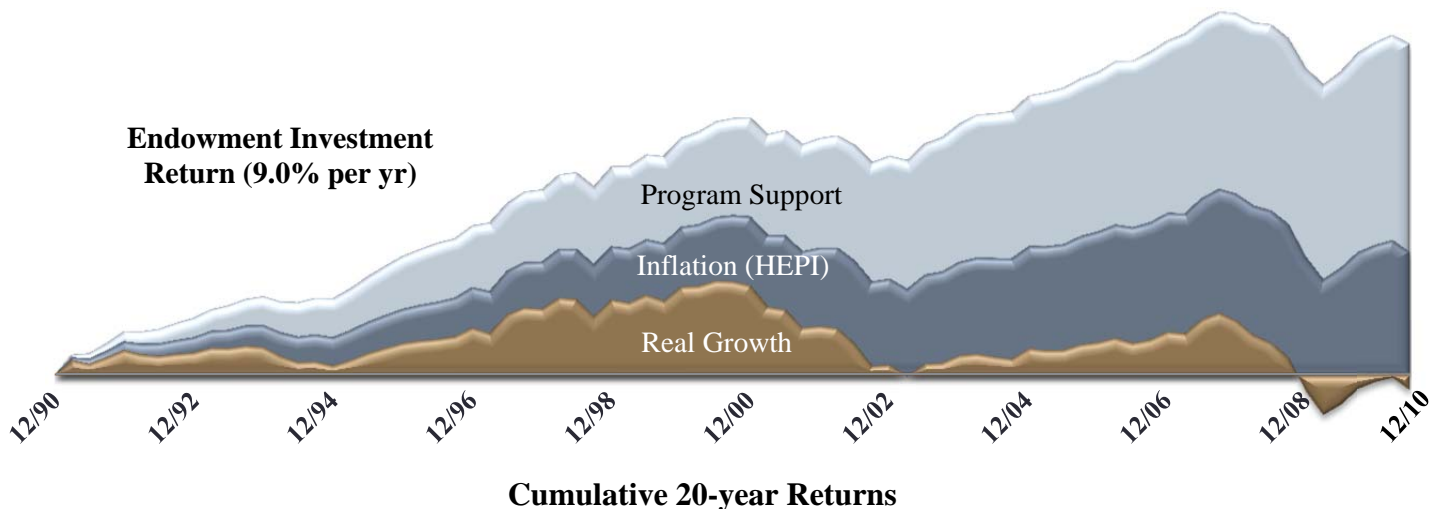
The foregoing indicates that the Endowment maintains sufficient liquidity to satisfy anticipated cash requirements.

Increased Liquidity and Investment Performance

As shown above, the liquidity profile of Penn State’s Endowment changed slightly from the end of calendar 2009 (tan bars) to the end of calendar 2010 (blue bars). Daily liquidity *decreased* from 52% to 50%. Meanwhile, monthly and yearly liquidity *increased* from 14% to 17% and from 9% to 10%, respectively. Illiquid non-marketable alternative assets remained the same at 24% of Endowment assets. Overall, this decreased current liquidity helped the Endowment take advantage improving equity markets worldwide.

Long-Term Endowment Growth and Spending

In the chart below, the top line represents the cumulative net investment return of the Penn State Endowment over the last 20 years. The layers illustrate investment return apportioned to program support (spending) and inflation (as measured by the Higher Education Price Index [HEPI]), with the remaining residual representing net, real (inflation-adjusted) growth.



The Endowment’s primary investment goal is to earn a long-term rate of return sufficient to support *current* spending and to preserve *future* purchasing power. This two-pronged objective is illustrated by apportioning total nominal (i.e., before adjusting for inflation) investment return (top line above) into layers, representing program support and inflation, along with a residual layer corresponding to net *real* growth. Because investment returns periodically fluctuate (illustrated by the jagged lines above), real growth, which nets out program support and inflation from total endowment return, oscillates across the horizontal “intergenerational equity” line. While market fluctuations have caused the growth layer to swing positive and negative, “intergenerational equity” has been achieved on balance.

Two Very Different Decades of Market Performance

The variable nature of investment returns is characterized in the below table which bifurcates the last 20 years into two consecutive 10-year periods, whose respective investment returns differed widely. The 10 years ending June 2000 (second row) benefitted from an extended equity bull market, while the 10 years ending June 2010 (first row) suffered two large sell-offs in equities, as shown by the S&P 500’s significant return disparities (left column, last row) below:

<u>10-Year Periods</u> <u>Ending December 31</u>	<u>Annual Nominal Returns</u>			<u>HEPI</u>	<u>Annual Real Returns</u>		
	<u>S&P 500</u>	<u>Bond Index</u>	<u>Endowment</u>		<u>S&P</u>	<u>Bonds</u>	<u>Endowment</u>
2000 to 2010	1.4%	5.8%	5.1%	3.4%	-2.0%	2.4%	1.7%
<u>1990 to 2000</u>	<u>17.5</u>	<u>8.0</u>	<u>9.0</u>	<u>3.4</u>	<u>14.1</u>	<u>4.6</u>	<u>5.6</u>
Diff (percentage points)	-16.1%p	-2.2%p	-4.0%p	0.0%p	-16.1%p	-2.2%p	-3.9%p

As shown by the negative differentials in the last row above, investment returns for the most recent 10 years lagged those for the previous 10 years in *every* instance. Owing to the severity of two bear markets, the S&P 500’s 1.4% annualized nominal return for the 10-year period ending December 2010 trailed its 17.5% pace for the 10-year period ending December 2000 by a remarkable 16.1%p (percentage points). Over the same two periods, the respective return difference for bonds (Barclays Aggregate Bond Index) was -2.2%p and for the Endowment was -4.0%p, net of fees.

On an inflation-adjusted basis relative to HEPI (boxed column in above table), the Endowment’s net *real* return difference was -3.9%p, compared to *real* differences of -16.1%p for stocks and -2.2%p for bonds (last row of the right three columns above). Over the past decade, decreased public equity exposure along with increased “alternative investments” has enabled the Endowment to outperform stocks (both nominal and real) for the 10 years ending December 2010, when overall investment returns were substantially lower than the prior 10-year period.