Endowment & Similar Funds
Investment Review for Calendar 2009
Submitted March 2010

This cover page provides a summary overview of the Pennsylvania State University Endowment and Similar Funds for calendar year 2009. The next 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, 2009:

<table>
<thead>
<tr>
<th></th>
<th>Calendar 09</th>
<th>3 Years</th>
<th>5 Years</th>
<th>10 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return (%)</td>
<td>13.0%</td>
<td>-0.3%</td>
<td>5.2%</td>
<td>4.7%</td>
</tr>
</tbody>
</table>

Endowment & Similar Funds Market Value (pg 3)

Penn State University’s Endowment was valued at $1,356 million as of December 31, 2009, with an additional $103 million in Similar Funds.

Review of Investment Markets (pg 4)

The graph below compares respective returns for 12-months ending December 31, 2008 and 2009 for the S&P 500, 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, public equity returns, along with domestic real estate (REITs), rebounded in 2009 and broadly outpaced year earlier results. Bond and T-Bill returns were positive in both years.

Investment Diversification and Asset Mix (pg 5)

At calendar year-end, 56% of Endowment assets were invested in public equities (domestic and foreign), 21% 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 13.0% net for the year ending December 31 versus 14.9% for the Strategic Policy Portfolio. Calendar 2009’s underperformance largely accounted for slippage relative to the passive policy portfolio in the 3- and 5-yr periods, as well.

Endowment Liquidity (pg 7)

With more than 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 4.7% and 8.3% over the last 10 and 20 years, respectively, have allowed the Endowment to maintain steady inflation-adjusted spending and achieve long-term intergenerational equity.
5-Year Endowment Facts and Figures

<table>
<thead>
<tr>
<th></th>
<th>Annual Periods Ending December 31</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Investment Performance</strong></td>
<td></td>
</tr>
<tr>
<td>(annualized net returns)</td>
<td>13.0%</td>
</tr>
<tr>
<td><strong>Market Values</strong> ($ millions)</td>
<td></td>
</tr>
<tr>
<td>Endowment¹</td>
<td>1,356.5</td>
</tr>
<tr>
<td>Similar Funds²</td>
<td>103.2</td>
</tr>
<tr>
<td>Endowment and Similar Funds</td>
<td>1,459.7</td>
</tr>
<tr>
<td>Gifts &amp; Other Additions ($ mils)</td>
<td>63.4</td>
</tr>
<tr>
<td>Current Spending ($ mils)</td>
<td>64.3</td>
</tr>
</tbody>
</table>

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)

2) Similar Funds — includes donor-restricted and deferred gifts, plus funds in transit to Endowment.

Penn State Investment Council (PSIC) Meetings

December 16, 2009 approved:
- Maintaining endowment spending at a 4.5% annual rate.

October 16, 2009 approved:
- Investing $25m in Cohen and Steers Global Real Estate Long-Short strategy.
- Investing $65m in BlackRock Large-Cap Value Equity and $25m in DFA Emerging Market Equity.

June 19, 2009 approved:
- Committing $10 million to TA Associates Private Equity Fund XI, L.P.
- Investing $20 million in Wellington Emerging Markets Equity Fund.

February 27, 2009 approved:
- Committing $5 million to the following venture capital strategies: Charles River Partnership XIV, L.P. and Draper Fisher Jurvetson X, L.P.

Please note that commitments made to Limited Partnerships (LP) 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, 2009, Penn State’s Endowment was valued at $1,356.5 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 $103.2 million, bringing Penn State’s Endowment and Similar Funds to $1,459.7 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)

<table>
<thead>
<tr>
<th>Year</th>
<th>Endowment</th>
<th>Similar Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>1,225</td>
<td>98</td>
</tr>
<tr>
<td>2006</td>
<td>1,398</td>
<td>110</td>
</tr>
<tr>
<td>2007</td>
<td>1,580</td>
<td>117</td>
</tr>
<tr>
<td>2008</td>
<td>1,216</td>
<td>90</td>
</tr>
<tr>
<td>2009</td>
<td>1,357</td>
<td>103</td>
</tr>
</tbody>
</table>

From the graph above:

The Endowment and Similar Funds’ total value increased by $153.9 million during calendar 2009. As seen in the table on page 2, new gifts added to the Pool over the last 12 months totaled $63.4 million, while Endowment program support (spending) amounted to $64.3 million.

Inflows of new gifts, along with positive investment returns, have resulted in a cumulative 10.4% increase in the Endowment’s value, net of spending, from December 31, 2005 to December 31, 2009.

The total Endowment’s $136.5 million increase since 2005 reflects new gift contributions and reinvested investment earnings, after providing cumulative program support of $297.6 million.
Review of Investment Markets in Calendar 2009

Following a year of extreme double-digit losses, equities in calendar 2009 handily outperformed fixed income returns while non-US indexes generally outpaced domestic markets. The performance of investment markets that directly impact Penn State University’s Endowment is discussed below.

US Equities

The S&P 500 returned 26.5% for the 12 months ending December 31, 2009, compared to -37.0% for calendar 2008, while the large-cap biased Dow Jones Industrial Index returned 22.7% and -31.9%, respectively. Small-capitalization stocks, as measured by the Russell 2000 Index, returned 27.2% versus -33.8% last year. The Nasdaq Index outperformed broad domestic indexes in calendar 2009, returning 43.9% versus -40.5% in 2008.

Non-US Equities

In a reversal from calendar 2008, equities outside the United States generally outperformed those in the US. The Morgan Stanley All Country World (ACW) Index ex-US returned 41.5% for the 12-month period ending December 31, 2009, easily surpassing its -45.2% return in calendar 2008. Emerging market equities in less developed countries returned a torrid 79.0% over the last 12 months, well above its -53.2% return in calendar 2008.

Fixed Income


Economic and Market Outlook

Meanwhile, 91-day Treasury Bills returned 0.2% in calendar 2009 versus 2.1% one year ago. Treasury Inflation Protected Securities (TIPS) returned 11.4% in calendar 2009 compared to -2.4% in 2008.

Real Estate

Publicly-traded Real Estate Investment Trusts (REITs) returned 28.0% for the year ended December 2009 compared to -37.7% in 2008. Privately-held real estate investment partnerships, as measured by the largely commercial property NCREIF Index, returned -22.1% in calendar 2009 compared to 5.3% in 2008.

Alternatives

Private Equity Buyouts and Venture Capital declined as well, averaging returns of -9.9% and -12.9%, respectively, for the 12 months ending September 30, 2009 (private capital partnerships are reported on a 3-month delay). In the previous 12-month period ending September 30, 2008, Private Equity returned -4.8%, while Venture Capital lost -0.9%. By comparison, the Russell 2000 Index of small-capitalization stocks returned -9.6% for the 12 months ending September 30, 2009 and -14.5% for the year ending September 30, 2008.

In the 12 months ending December 31, 2009, global equity markets rallied strongly and partially erased losses from the previous calendar year, with non-US equities again leading the world indexes. Fixed income markets provided a third consecutive year of positive returns, as the Federal Reserve held 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 slowly improving credit concerns.

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 strategic policy asset mix targets a combination of three very broad asset categories 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 strategic 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, 2009 allocations of 56%, 21%, and 23%, respectively. In the boxes outside the circle are the long-term allocation targets of 50%, 20%, and 30%, 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:

- 56% in Public Equities includes publicly-traded US (35%) and non-US (13%) common stocks, and equity-oriented hedge funds (8%).
- 21% in Fixed Income includes 16% in nominal bonds (mostly government bonds), 4% in Treasury Inflation Protected Securities (TIPS), and 1% in an income-oriented hedge fund.
- 23% in Private Capital includes the following private partnerships: 4% in venture capital, 9% in leveraged buy-outs, and 1% in distressed-debt, 6% in real estate, and 3% in energy.

The individual asset classes above represent market values as of December 31, 2009; however, the percentages fluctuate depending on market trends and tactical allocations approved by the Penn State Investment Council. On the other hand, the amounts in the three macro categories in the outer ring tend to be more stable, but are expected to gradually gravitate toward the targets in the outer boxes over the next five to seven years.

The approximately 79% 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 21% invested in fixed is intended to provide diversification and stability during times of market turbulence.
Long-Term Strategy and Endowment Performance Compared

The Endowment’s investment approach is guided by its hypothetical Strategic Policy Portfolio, whose three broad asset categories, as illustrated on the previous page, serves as a “passive” composite benchmark against which the performance of the actual, actively-managed Endowment is monitored. In the table and graph below, the respective fixed weightings of three major asset categories are associated with corresponding market benchmarks to generate Strategic Policy Portfolio returns over 1-, 3-, and 5-year horizons:

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Benchmark</th>
<th>Weighting</th>
<th>1 Year</th>
<th>3 Years</th>
<th>5 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Equities</td>
<td>All-Country World Index</td>
<td>50%</td>
<td>35.4%</td>
<td>-4.0%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Fixed Income/Cash</td>
<td>Barclays Aggregate Bonds</td>
<td>20%</td>
<td>5.9</td>
<td>6.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Non-Marketable Alternatives</td>
<td>Custom Index</td>
<td>30%</td>
<td>-12.9</td>
<td>2.3</td>
<td>10.3</td>
</tr>
</tbody>
</table>

Total Policy Portfolio (net) 100% 15.0% -0.1% 5.9%

Note: the three categories above are very broad and are comprised of several sub-categories as shown on the previous page. Also, while the Policy Portfolio weighting is assumed to be constant over the entire 5-yr period, actual portfolio weights vary as a result of fluctuating market returns and manager turnover. For example, five years ago, 23% of the actual portfolio was in non-marketable alternatives whereas one year ago this category represented 29% of the actual portfolio. This was largely the result of the so-called “denominator effect” where the total value of the Endowment declined due to the public equity bear market which, at that time, had less impact on privately held non-marketable investments.

As shown above, Penn State’s Endowment returned 13.0% net for calendar 2009, trailing the 15.0% return of the Policy Portfolio. For the trailing 3- and 5-years, the Policy Portfolio would have realized annualized returns of -0.1% and 5.9%, respectively. By comparison, the Endowment returned -0.3% net and 5.2% net, respectively.

The Endowment’s slippage relative to the Policy is largely attributable to recent underperformance in non-marketable alternatives. Because their performance is reported 3 months in arrears, returns for alternatives as of September 30, 2009 do not fully reflect the rally in public markets over the last 10 months of 2009. It is anticipated that returns for non-marketable alternatives will, in due course, reflect the improved returns for public equities in 2009.

The Strategic Policy 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 Policy 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 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 indeterminate future cash flows.

Observations from the green (left) bars of each of the four pairs above for the period ending December 31, 2009:

- 52% percent of Endowment assets are invested in stocks and bonds that can be converted to cash in a matter of days. Typically, from 1% to 2% of Endowment assets are held in money market accounts to satisfy immediate cash requirements, making it less likely assets will need to be liquidated to raise cash.
- Commingled portfolios, primarily non-US equity portfolios, comprise 14% of Endowment assets and can be converted to cash monthly.
- 9% of Endowment assets are invested in seven 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 significantly from the end of 2008 (orange bars) to the end of 2009 (green bars). Daily liquidity increased from 42% to 52%, including increased money markets and cash-like investments from 6% to 8%. Meanwhile, monthly and yearly liquidity decreased from 17% to 14%, and from 10% to 9%, respectively. Illiquid non-marketable alternative assets decreased from 31% to 24%. Overall, this increased current liquidity tended to hinder the Endowment’s overall investment performance (i.e., “cash drag”), especially during the last 10 months of 2009 when longer-duration bonds and stocks rallied dramatically.
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. A residual layer, which oscillates around the horizontal “intergenerational equity” line, corresponds to net real growth. The variability in real growth is attributable to plotting investment returns that periodically fluctuate (illustrated by the jagged lines above) alongside implicitly stable spending and inflation. 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 December 1999 (second row) benefitted from an extended equity bull market, while the 10 years ending December 2009 (first row) suffered two large sell-offs in equities, as shown by the S&P 500’s significant return disparities (last row) below:

<table>
<thead>
<tr>
<th>10-Year Periods</th>
<th>Annual Nominal Returns</th>
<th>Annual Real Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ending December 31</td>
<td>S&amp;P 500</td>
<td>Bond Index</td>
</tr>
<tr>
<td>1999 to 2009</td>
<td>-1.0%</td>
<td>6.3%</td>
</tr>
<tr>
<td>1989 to 1999</td>
<td>18.2</td>
<td>7.7</td>
</tr>
<tr>
<td>Diff (percentage points)</td>
<td>-19.2%p</td>
<td>-1.4%p</td>
</tr>
</tbody>
</table>

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 -1.0% annualized nominal return for the 10-year period ending December 2009 trailed its 18.2% pace for the 10-year period ending December 1999 by a remarkable 19.2%p (percentage points). Over the same two periods, the respective return difference for bonds (Barclays Aggregate Bond Index) was -1.4%p and for the Endowment was -7.4%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 -8.0%p, compared to real differences of -19.8%p for stocks and -2.0%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 (nominal as well as real) in the most recent 10-year period, when overall investment returns were substantially lower than the prior 10-year period.