State of New Mexico
LEGISLATIVE FINANCE COMMITTEE

325 Don Gaspar, Suite 101 • Santa Fe, NM 87501
Phone (505) 986-4550 • Fax: (505) 986-4545

David Abbey
Director

December 4, 2017

LFC INVESTMENT REPORT FOR THE QUARTER ENDING SEPTEMBER 30, 2017

This report details the comparative investment performance of the three investment agencies: the Educational Retirement Board (ERB), the Public Employees Retirement Association (PERA), and the State Investment Council (SIC) which manages the land grant permanent fund (LGPF) and the severance tax permanent fund (STPF). This report derives agency performance and market environment information from the investment performance reports submitted by PERA, ERB, and SIC for the quarter ending September 30, 2017.

INVESTMENT PERFORMANCE HIGHLIGHTS

- In the last year, the aggregate value of the state's combined investment holdings for the pension and permanent funds grew by $4.3 billion, or 9.4 percent, to end the quarter at $49.6 billion. ERB and PERA's fund balances grew 7.7 percent and 9.1 percent, respectively, and the aggregate value of the permanent funds managed by SIC grew 10.7 percent.
- One-year returns ranged from 10 percent to almost 13 percent, and each agency outperformed their long-term targets for the one- and five-year periods.
- The permanent funds' investment returns were above the median for the one-year period, based on percentile rankings in the Wilshire Trust Universe Comparison Service (TUCS) peer universe for public funds greater than $1 billion. However, the permanent funds ranked below the median for all other periods reported. ERB's returns were just above the 50th percentile for the three-year period, but below the median for all other periods reported. PERA's investment returns were near or below the lowest quartile for all periods reported.

PERFORMANCE VS. INTERNAL BENCHMARKS

The table below provides the funds' investment returns for the quarter, one-, three-, five-, and 10-year periods ending September 30, 2017. Also displayed are the funds' policy indices, which are a custom benchmark that show the returns that would have been generated if a passive investor consistently followed the agency's asset allocation targets according to their investment policy.

The state's investment funds each generated returns above their long-term targets for the one- and five-year periods, but fell short of those return targets for the three- and 10-year periods. The long-term return targets are 7.25 percent (PERA), 7.25 percent (ERB), 7 percent (LGPF), and 6.75 percent (STPF).

The PERA fund returned 10.4 percent over the last 12 months, above its long-term target but below its internal benchmark for the year. The PERA fund returned 8.1 percent over the last five years, above its long-term target and just above its policy index. PERA's returns also exceeded its internal benchmark for the quarter but fell below the policy index for the three- and 10-year periods.

Investment returns for the ERB portfolio were 11.1 percent over the one-year period and 8.3 percent over the last five years, both exceeding its long-term return target. ERB's returns fell short of its policy index for the quarter and one-year period, but exceeded that internal benchmark for the three-, five-, and 10-year periods.

Returns for the LGPF exceeded the policy index for all periods reported, with the fund returning 12.7 percent over the last 12 months and 8.6 percent over the last five years. The STPF returned 12.6 percent in the one-year period and 8.4 percent in the five-year period, exceeding the long-term targets but only beating the policy index for the one-year period.

Returns as of September 30, 2017 (Net of Fees)[1]

	PERA		ERB		LGPF		STPF	
Returns (%)	**Fund**	**Policy Index**	**Fund**	**Policy Index**	**Fund**	**Policy Index**	**Fund**	**Policy Index**
Quarter	3.0	2.6	3.0	3.3	3.3	3.1	3.2	3.2
1-Year	10.4	10.9	11.1	11.6	12.7	11.3	12.6	11.5
3-Year	5.9	6.5	7.1	6.7	6.6	6.6	6.6	6.6
5-Year	8.1	8.0	8.3	7.7	8.6	8.5	8.4	8.6
10-Year	4.1	5.0	5.3	4.7	5.0	4.6	4.3	4.6

FUND ASSET VALUES

Fund balances grew over in the last year, as shown in the table below. The aggregate value of all four of the state's investment funds grew by over $4 billion, or 9.4 percent, in the last year and grew by $12.6 billion, or 34 percent, over the last five years. The land grant permanent fund, which is the largest of the four funds, added about $1.7 billion to the fund balance year-over-year. ERB added about $895 million, PERA added about $1.3 billion, and the STPF added about $375 million in the last year. All amounts displayed in the table below are net-of-fees and represent annual growth in fund balances less any distributions.

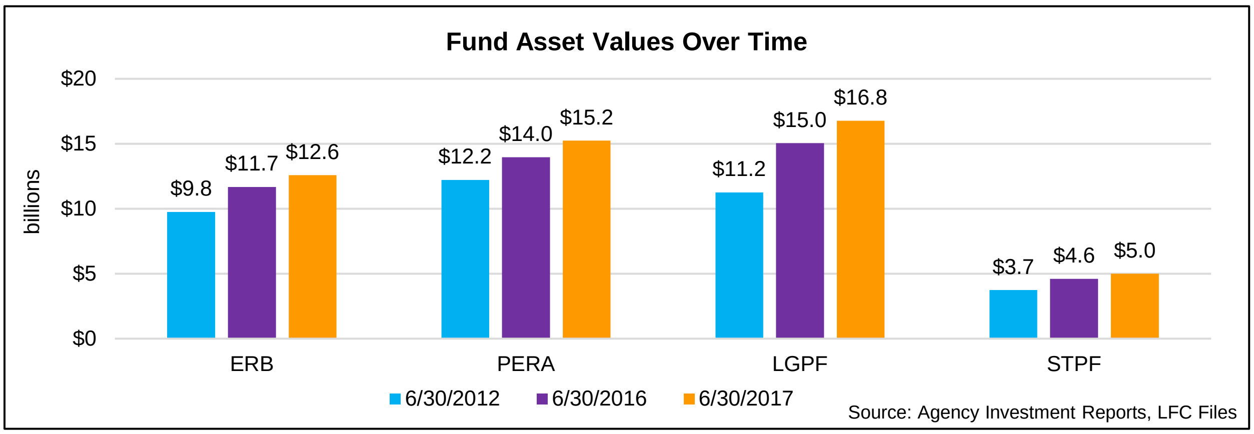
[1] When considering the performance of the state's investment funds, it is important to keep in mind the different investment goals, which influence the funds' risk-to-return choices, particularly in making asset allocation decisions that drive fund returns over the very long term. The pension funds operate under a dual mandate to generate income to pay current retiree benefits and to grow the principal of the fund to pay retiree benefits into the future. The permanent funds' investment goals are to grow the funds such that future generations may receive the same or greater benefits as current beneficiaries.

Current Asset Values* (millions)
For One-Year Period Ending September 30, 2017

	ERB	PERA	LGPF	STPF	TOTAL
Current Asset Value	**$12,580.0**	**$15,239.0**	**$16,768.7**	**$4,987.7**	**$49,575.5**
Annual Change					
Ending Asset Value (9/30/2016)	$11,685.1	$13,973.9	$15,047.1	$4,612.5	$45,318.6
Value Change – Year Over Year	$894.9	$1,265.2	$1,721.6	$375.2	$4,256.9
% Change – Year Over Year	7.7%	9.1%	11.4%	8.1%	9.4%

*Net of Fees

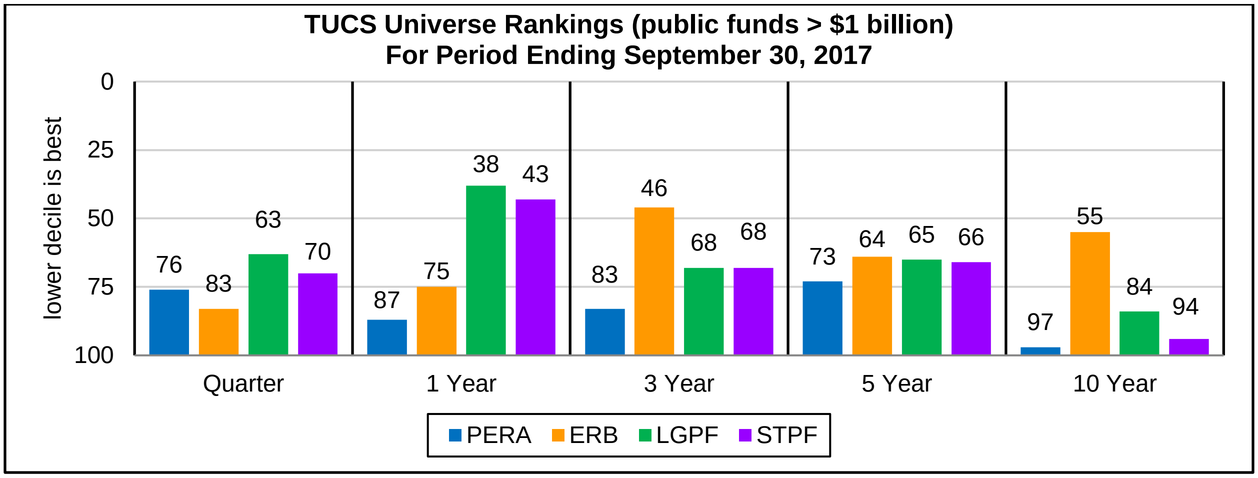
Each of the funds showed significant growth in the last five years, with the LGPF adding $5.5 billion to its fund balance, ERB adding $2.8 billion, PERA adding $3 billion, and the STPF adding $1.3 billion. Notably, as pension funds, PERA and ERB's fund values reflect retiree benefit payouts, which must be made regardless of the amount of contributions received. Distributions from the permanent funds, however, are based on a formula using revenue, contributions, and a five-year average of the fund. Generally, due to these differences in liabilities, the permanent funds tend to have a larger percent change in fund asset values than the pension funds.



PERFORMANCE RELATIVE TO PEERS

The Wilshire Trust Universe Comparison Service (TUCS) benchmark service evaluates the performance and allocation of institutional investment assets. The service evaluates New Mexico's investment fund returns alongside approximately 50 public funds with more than $1 billion in assets. The following figure shows gross-of-fees total return rankings for the agencies' large funds for the quarter, one-, three-, five-, and 10-year periods. A lower number (1 is best) denotes better performance when compared with other public funds within a comparable investment universe.[2]

[2] While a useful comparison, universe rankings represent an imperfect measure. Universe rankings focus singularly on a fund's returns compared with the returns of other funds of similar size without consideration of differing missions or investment goals. For example, funds focused on stability with specific distribution requirements, such as pension funds, will choose diversified asset allocations over a very long-term investment horizon. Such a decision recognizes that in a given time period, certain assets classes will underperform and others will outperform – meaning the fund may give up some short-term return potential in favor of less risk over the long-term. As such, a fund may rank very low or very high in a given timeframe, but that ranking may not be indicative of how well suited the fund is for long-



The permanent funds performed at or above the median for the one-year; however, these funds fell below the 50th percentile for all other periods reported. SIC states, given the portfolio structure of the permanent funds, it expects to be in the third quartile primarily due to outsized returns of the publicly-traded equity markets. The LGPF relies somewhat less on publicly-traded equity markets for return than the average peer fund. However, SIC states excess returns from active management in the last year is presently greater than the peer group, which moved the permanent funds above the median for the one-year period.

The ERB fund was the only one to rank in the 2nd quartile for the three-year period. However, the fund performed below the median for all other periods reported. Due to strong equity performance and the portfolio's relatively low equity exposure, ERB states the rankings are in line with what the agency would expect given its asset allocation. Having intentionally diversified away from a heavy stock market exposure, ERB recognizes the fund will give up potential returns in bull markets in favor of additional stability in moderate or negative return markets.

PERA also notes its relative underweight in equity relative to the peer universe, as well as its relative overweight in fixed income investments, detracted from performance. The fund ranked near or below the lowest quartile for all periods reported. PERA views the fund rankings as an indication of their defensive asset allocation relative to their peers. As such, PERA does not expect to outperform against funds that have higher exposures to risky asset classes, such as global equity.

MANAGEMENT FEES

For fiscal year 2017, the investment agencies prepared a compilation of management fees for each of their investment portfolios. The fees listed in the tables below include the management, administrative, audit, operational, and staff costs associated with administering the investment plans. The table includes both the dollar amount of management fees and the cost in basis points, which considers the cost relative to the size of the overall fund.[3] The amounts paid for performance, also known as carried interest, is a share of the profits generated on an investment that a manager receives as compensation and is intended to

term viability. Specifically, funds with heavy equities exposure may rank high during stock market rallies but risk significant losses in the event of a market crash.

[3] One basis point is one hundredth of one percent, or 0.01 percent.

motivate improved performance. Since management fees only cover the cost of managing the fund, carried interest is often considered separately.

In FY17, ERB paid about $99 million in management fees, or 65 basis points, and $63.2 million in performance fees. ERB has lowered the cost of its management fees over the last fiscal year, which were $107.8 million, or 84 basis points, in FY16. The agency has employed are variety of cost-saving strategies, including switching to index funds in asset classes where managers have not consistently beat the market and bringing some asset classes under internal management. In FY17, about 21 percent, or $2.4 billion, of the ERB portfolio was passively managed and about 8 percent, or nearly $1 billion, was actively managed internally. The remaining 71 percent, or $8.3 billion, is actively managed externally. ERB notes that in the fourth quarter of this year the agency implemented their mid-cap U.S. equity index, which replaced two active managers and is expected to save the fund over $2 million in annual fees.

Educational Retirement Board - Asset Management Fees Paid FY 2017					
Asset Class	Management Fees	Performance Fees	Total	Percentage	Annual Cost (in bps)
Domestic Equity	$ 3,191,570	$ -	$ 3,191,570	2.0%	12
International Equity	$ 11,977,982	$ -	$ 11,977,982	7.4%	67
Fixed Income	$ 1,726,474	$ 2,001,971	$ 3,728,445	2.3%	14
Private Equity	$ 19,771,364	$ 9,136,987	$ 28,908,351	17.8%	71
Private Real Estate	$ 9,480,800	$ 1,881,245	$ 11,362,045	7.0%	93
Real Return	$ 16,108,006	$ 3,961,131	$ 20,069,137	12.4%	146
Hedge Funds	$ -	$ -	$ -	0.0%	0
Opportunistic Credit	$ 27,642,654	$ 46,267,396	$ 73,910,050	45.6%	92
GTAA	$ 6,953,978	$ -	$ 6,953,978	4.3%	116
Risk Parity	$ 2,143,308	$ -	$ 2,143,308	1.3%	34
Cash	$ -	$ -	$ -	0.0%	0
Total	$ 98,996,137	$ 63,248,729	$ 162,244,866	100.0%	65

Over this past fiscal year, PERA paid $68.1 million in management fees, or 41 basis points, and $33.8 million in performance fees. In FY17, about 48 percent, or $7.1 billion was actively managed by external managers while the remaining 52 percent, or $7.8 billion is passively managed. While PERA's management fees are higher than in FY16 ($57.3 million, or 36 basis points), the agency's heavier reliance on passive management translates into the lowest amount and proportion of management fees relative to the other state funds.

Public Employees Retirement Association - Asset Management Fees Paid FY 2017					
Asset Class	Management Fees	Performance Fees	Total	Percentage	Annual Cost (in bps)
Domestic Equity	$ 4,201,659	$ 27,758	$ 4,229,416	2.6%	45
International Equity	$ 3,996,796	$ 1,340,585	$ 5,337,380	3.3%	8
Fixed Income	$ 4,551,048	$ -	$ 4,551,048	2.8%	14
Private Equity	$ 14,040,342	$ 13,767,174	$ 27,807,517	17.1%	92
Private Real Estate	$ 7,168,047	$ 3,245,386	$ 10,413,433	6.4%	61
Real Return	$ 13,244,604	$ 5,577,081	$ 18,821,685	11.6%	90
Hedge Funds	$ 9,636,725	$ 7,911,369	$ 17,548,094	10.8%	120
Opportunistic Credit	$ 11,240,055	$ 1,885,662	$ 13,125,717	8.1%	55
GTAA	$ -	$ -	$ -	0.0%	0
Risk Parity	$ -	$ -	$ -	0.0%	0
Cash	$ -	$ -	$ -	0.0%	0
Total	$ 68,079,276	$ 33,755,015	$ 101,834,291	62.8%	41

The State Investment Council paid $135.3 million in management fees in FY17, or 56 basis points, and $76.7 million in performance fees. About three quarters of the permanent funds are actively managed externally, which is about $11.9 billion for the LGPF and $3.6 billion for the STPF. The remainder of the funds are passively managed, which is about $4.4 billion for the LGPF and $1.3 billion for the STPF. SIC states its active management strategies have returned about 3.5 times the management fees paid over the year ending September 30, earning roughly $450 million in excess return.

State Investment Council- Asset Management Fees Paid FY 2017						
Asset Class	**Management Fees**	**Performance Fees**	**Total**	**Percentage**	**Annual Cost (in bps)**
Domestic Equity	$ 12,598,642	$ -	$ 12,598,642	7.8%	22
International Equity	$ 13,457,403	$ -	$ 13,457,403	8.3%	34
Fixed Income	$ 7,665,332	$ -	$ 7,665,332	4.7%	19
Private Equity	$ 35,839,954	$ 33,000,015	$ 68,839,969	42.4%	98
Private Real Estate	$ 19,973,292	$ 12,737,322	$ 32,710,614	20.2%	81
Real Return	$ 24,146,574	$ 13,900,164	$ 38,046,738	23.5%	86
Hedge Funds	$ 13,316,896	$ 9,737,922	$ 23,054,818	14.2%	162
Opportunistic Credit	$ 8,286,651	$ 7,309,313	$ 15,595,964	9.6%	118
GTAA	$ -	$ -	$ -	0.0%	0
Risk Parity	$ -	$ -	$ -	0.0%	0
Cash	$ -	$ -	$ -	0.0%	0
Total	$ 135,284,744	$ 76,684,736	$ 211,969,480	130.6%	56

ACTUAL VS. TARGET ASSET ALLOCATIONS

The target asset allocations shown below represent the investment funds' portfolio structure, detailing how investments are made. Each of the investment agencies focus on a diversified portfolio, spreading out investments across a variety of asset classes. The table below shows the current actual asset allocation for the period ending September 30, 2017, compared with the funds' policy targets (except PERA, whose strategic asset allocation follows a different structure).

	ERB		**PERA**	**LGPF**		**STPF**	
	Actual	**Target**	**Actual**	**Actual**	**Target**	**Actual**	**Target**
US Equity	18.4%	20.0%	6.4%	26%	26%	25%	26%
International Equity	15.0%	15.0%	29.8%	20%	18%	21%	18%
Global Equity*			6.3%				
Fixed Income	7.9%	6.0%	21.6%	22%	23%	21%	22%
Emerging Market Debt	1.8%	2.0%	3.5%				
Total Alternatives	54.9%	56.0%	29.4%	31.3%	32.0%	31.7%	33.0%
Private Equity	11.6%	11.0%	5.0%	10%	9%	11%	10%
Real Estate	7.1%	7.0%	6.0%	9%	9%	9%	9%
Real Assets	6.4%	8.0%	7.0%	10%	9%	9%	9%
Absolute Return			0.2%	3%	5%	3%	5%
Hedge Funds			0.5%				
ETI**							
Opportunistic Credit	19.7%	20.0%	10.7%				
Global Asset Allocation	4.9%	5.0%					
Risk Parity	5.2%	5.0%					
Cash Equivalents	2.2%	1.0%	3.0%	1%	1%	1%	1%
Total Fund %	100%	100%	100%	100%	100%	100%	100%

*Unlike the other investment funds, PERA's global equity asset class includes domestic and international public securities, global low volatility equity, hedged equity, and private equity.

**Economically targeted investments

RISK PROFILES

Risk is an inherent component of investing in financial markets. As risk of an investment fund is a function of the strategic asset allocation, it is prudent to keep the risk within tolerant levels to achieve the overall goals of the plan. This report utilizes a few key measures to evaluate the impact that risk plays in an investment portfolio. The table below reports funds' standard deviation, Sharpe Ratio, and beta for the five-year period ending September 30, 2017. This report uses the five-year period as a proxy for the portfolios' risk profiles over the course of a full market cycle.

Risk Metrics*, Five Years Ending 09/30/17

	ERB	PERA	LGPF	STPF
Standard deviation	4.6	5.84	4.89	4.88
Sharpe Ratio	1.8	1.35	1.70	1.67
Beta	0.92	1.13	0.97	0.96

*Net of fees

Standard deviation measures the fund's expected variability (deviation) of returns from the mean return. Investments that are more volatile generate a higher standard deviation. Of the four funds, PERA demonstrated the highest standard deviation, indicating higher volatility relative to the other funds. PERA is still in the process of transitioning its portfolio to new policy targets. During the transition period, the PERA portfolio has shown greater volatility than its policy index, which is more diversified.

The Sharpe Ratio measures the risk-adjusted performance of a portfolio. The higher the number, the higher the return-to-risk level.[4] Typically, a good ratio is 1 or better, a very good ratio is 2 or better, and an excellent ratio is 3 or better. Each of the funds had a "good" Sharpe Ratio for the five-year period (between 1 and 2), suggesting a fair level of return for the investment risk taken.

Beta represents the volatility of the portfolio versus the policy index.[5] The beta for the PERA was just over 1.1, demonstrating more volatility relative to the other funds and greater volatility compared to its policy index.

---

[4] An example of a risk free return is a 5-year treasury bond.
[5] Beta = 1: portfolio moves with the market. Beta < 1: portfolio is less volatile than market. Beta > 1: portfolio is more volatile than the market.

ATTACHMENT 1 – INVESTMENT RETURNS