State of New Mexico
LEGISLATIVE FINANCE COMMITTEE

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LFC INVESTMENT REPORT FOR THE PERIOD ENDING DECEMBER 31, 2018

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 period ending December 31, 2018.

INVESTMENT PERFORMANCE HIGHLIGHTS

- In calendar year 2018, poor performance of the public equities markets led to a $1.8 billion, or 3.5 percent, decline in the state's aggregate investment holdings for the pension and permanent funds, ending the year at $50.9 billion. ERB and PERA's fund balances fell 2.9 percent and 6.5 percent, respectively, and the aggregate value of the permanent funds managed by SIC fell 1.9 percent.

- One-year returns ranged from 0.6 percent to -2.5 percent. Despite declines in fund value, both pension and permanent funds outperformed their policy indices for the year and returns exceeded their respective long-term targets for the 10-year period ending in 2018.

- The funds' diversified portfolios performed this year well when compared with peer funds greater than $1 billion on a net-of-fee basis. All four funds ranked in the top quartile for the quarter and the year. The ERB fund also ranked in the top quartile for the three-, five-, and 10-year periods. The permanent funds performed above the median for the three- and five-year periods, and the LGPF performed near the median for the 10-year period while the STPF ranked in the lowest quartile for this period. The PERA fund performed near the median for the three- and five-year periods and above the median for the 10-year period.

MARKET ENVIRONMENT

There is relatively broad agreement the economy entered a late cycle market environment over the last year. Generally, the economy is thought to have four phases: early cycle, mid-cycle, late cycle, and recession. Characteristics of a late cycle environment include rising interest rates, tightening financial/liquidity conditions, rising inflation, greater volatility in the financial markets. These features were highlighted in the last quarter of 2018, which saw a global equities sell-off due to concerns related to federal funds rate increases, U.S.-China trade uncertainties, and fears of a global slowdown. The S&P 500, a leading indicator of the U.S. equities market, returned -13.5 percent in the last quarter of 2018, with a -4.4 percent return for the year. The Morgan Stanley Capital International (MSCI) EAFE Index, a broad measure of the international equities market, posted -12.5 percent returns in the fourth quarter and -13.8 percent returns for the year. The Federal Reserve increased rates four times during 2018 with an expectation of two additional rate increases in 2019, which tightened global liquidity. Bank loans declined by 3.5 percent and riskier asset classes underperformed as demand increased for safer investments. Additionally, crude oil price declines weighed on the commodities markets and developed government bond yields decreased.

PERFORMANCE VS. INTERNAL BENCHMARKS

Table 1 provides the funds' investment returns for the quarter and one-, three-, five-, and 10-year periods ending December 31, 2018 compared with 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 10-year period, and the ERB fund also generated returns above its long-term target for the three-year period. The long-term return targets are 7.25 percent (PERA), 7.25 percent (ERB), 7 percent (LGPF), and 6.75 percent (STPF).

Table 1: Returns as of December 31, 2018 (Net of Fees)

	PERA		ERB		LGPF		STPF	
Returns (%)	Fund	Policy Index	Fund	Policy Index	Fund	Policy Index	Fund	Policy Index
Quarter	-5.22	-7.01	-3.30	-4.00	-5.71	-5.89	-5.94	-5.97
1-Year	-2.52	-5.22	0.60	0.30	-1.78	-2.11	-1.21	-2.07
3-Year	5.99	5.29	7.50	7.70	6.67	6.16	6.53	6.24
5-Year	4.49	4.31	6.30	5.80	5.30	5.38	5.28	5.43
10-Year	8.49	8.12	9.60	8.60	8.73	8.74	8.39	8.60

FUND ASSET VALUES

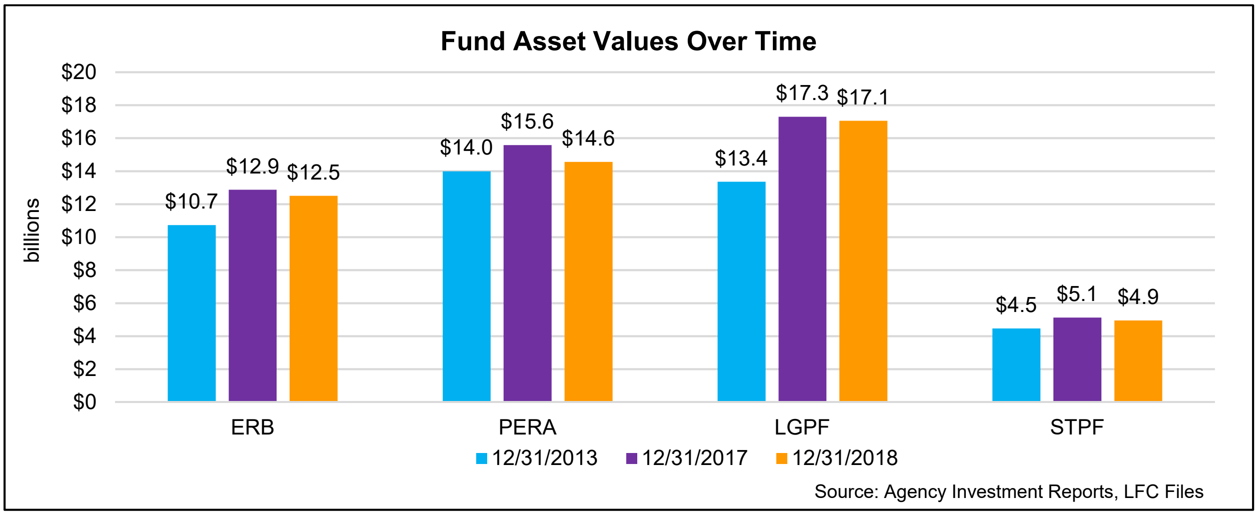
Due to poor performance in the public equities markets combined with mandatory disbursements to beneficiaries, fund balances declined over the last year, as shown in Table 2 below.

Table 2: Current Asset Values* (millions)
For One-Year Period Ending December 31, 2018

	ERB	PERA	LGPF	STPF	TOTAL
Current Asset Value	**$12,504.9**	**$14,559.5**	**$17,054.4**	**$4,947.0**	**$49,065.8**
Annual Change					
Ending Asset Value (12/31/2016)	$12,873.6	$15,573.5	$17,298.2	$5,124.3	$50,869.7
Value Change – Year Over Year	-$368.7	-$1,014.0	-$243.9	-$177.4	-$1,804.0
% Change – Year Over Year	-2.9%	-6.5%	-1.4%	-3.5%	-3.5%

*Net of Fees

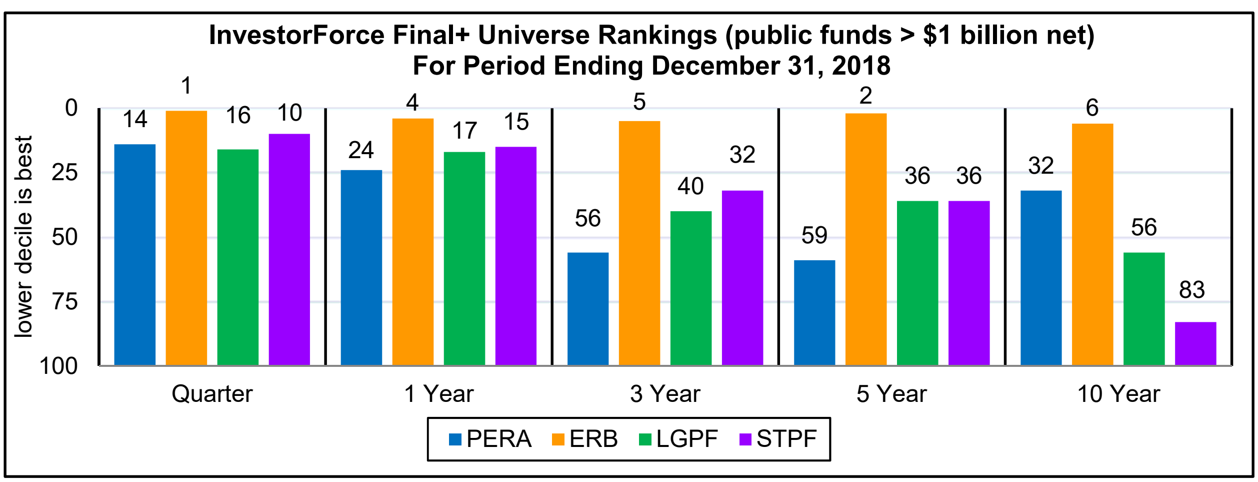
The aggregate value of all four of the state's investment funds fell by about $1.8 billion, or 3.5 percent, in the last year. The PERA fund experienced the largest losses in the last year, with an overall $1 billion decline in the value of the fund after accounting for negative returns and pension disbursements. The ERB fund managed slightly positive returns for the year; however, the total fund value fell by nearly $370 million after accounting for distributions. The combined value of the permanent funds fell by $421 million, or 1.9 percent, in 2018.



Despite 2018 losses, the aggregate value of the state's investment funds increased by $6.5 billion, or 15.3 percent, over the last five years. The LGPF grew by 27.7 percent, or nearly $3.7 billion. The ERB fund added nearly $1.8 billion, or 16.6 percent, and the STPF added $479 million, or 10.7 percent. PERA's fund value experienced the least overall growth in the last five years, adding $567 million, or 4.1 percent. 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 values than the pension funds.

PERFORMANCE RELATIVE TO PEERS

Using the InvestorForce Final+ Universe, the state's investment fund returns are evaluated on a net-of-fee basis alongside approximately 60 public funds, each with more than $1 billion in assets. The following figure shows net-of-fee total return rankings 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.



Despite market losses, the state's investment funds performed exceptionally well for the quarter and 2018 calendar year, with each fund ranking in the top quartile for investment returns. According to the funds' chief investment officers, this is due to diversification of the portfolios and the shift toward alternative investments, which performed well this year. This relatively good performance makes sense given the nature of peer rankings based on investment returns. Funds with higher equity exposure will rank higher during stock market rallies but risk significant losses in the event of a market crash. In diversifying away from heavy stock market exposure, the state's investment funds give up potential returns in bull markets in favor of additional stability in moderate or negative return markets, which was demonstrated in the last quarter of 2018.

Returns for the PERA fund were near the median for the three- and five-year periods and above the median for the 10-year period. PERA showed significant improvement in in peer rankings in recent quarters. In FY18 and prior, PERA's investment returns consistently ranked in the lowest quartile for most periods reported, which the agency maintained was a function of its lower risk asset allocation. While the agency's investment returns fell below its long-term target for most periods reported, the fund's 10-year return was above target.

ERB's fund was the only one of the four funds to produce positive returns for 2018, and ERB's investment returns ranked in the top 10 of all funds in the peer universe for all other periods reported. According to ERB, the agency's efforts in recent years to construct a relatively low volatility fund are validated by the strong performance compared to peers and in the fund's outperformance of its long-term target for the three- and 10-year periods.

According to SIC, the agency's main strategies of paring publicly-traded equity and credit risk and emphasizing private-market, cash-generative strategies performed well for the permanent funds in the quarter and over the last year. In addition to strong quarter and annual performance, returns for the permanent funds were above the median for the three- and five-year periods. The LGPF also performed near the median for the 10-year period; however, STPF returns were in the lowest quartile for the 10-year period.

ASSET ALLOCATIONS

The state's investment agencies already began positioning their asset allocations away from risker investments (e.g. public equities) in favor of other alternative assets (e.g. private equities, real estate, real assets, and other income-producing investments) expected to help achieve long-term returns. Diversification of the state's investment portfolios was one of the primary reasons the funds performed quite well in the last quarter of 2018 when compared to peer funds of similar size.

The target asset allocations shown in table 3 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. Table 3 shows the current actual asset allocation for the period ending December 31, 2018, compared with the funds' policy targets (except PERA, whose strategic asset allocation follows a different structure).

Poor market performance in late 2018 resulted in negative returns in public equity investments for the year. The state's investments in U.S. equities produced negative returns ranging from -5.5 percent to -11 percent, and international equities returns were about -15 percent. However, alternative investments performed fairly well this year. Private equity investments produced relatively strong returns, ranging from 14 percent to 20 percent. ERB's real estate and real asset investments also posted solid returns in 2018 at 8.2 percent and 14.1 percent, respectively. SIC's real estate investments returned 10 percent while PERA's returned 3.8 percent. Real asset investments for SIC and PERA were not as strong, returning 2 percent and -2.2 percent, respectively.

Table 3: Asset Allocations as of December 31, 2018

	ERB		PERA	LGPF		STPF	
	Actual	**Target**	**Actual**	**Actual**	**Target**	**Actual**	**Target**
US Equity	16.8%	19.0%	5.6%	23.2%	24.0%	24.1%	25.0%
International Equity	13.3%	14.0%	6.4%	19.1%	20.0%	19.2%	20.0%
Global Equity*	-	-	23.4%	-	-	-	-
Fixed Income	7.1%	6.0%	20.6%	26.4%	25.0%	23.3%	24.0%
Emerging Market Debt	1.7%	2.0%	3.0%	-	-	-	-
Alternatives							
Private Equity**	14.8%	13.0%	6.9%	12.0%	10.0%	12.0%	10.0%
Real Estate	6.4%	7.0%	7.0%	8.6%	9%	8.5%	9%
Real Assets	8.0%	8.0%	13.0%	9.3%	10.0%	9.9%	10.0%
Absolute Return	-	-	3.1%	8.6%	10.0%	8.5%	10.0%
Hedged Equity	-	-	0.3%	-	-	-	-
ETI***	-	-	-	-	-	0.8%	-
Opportunistic Credit	18.1%	18.0%	9.5%	-	-	-	-
Global Asset Allocation	5.1%	4.0%	-	-	-	-	-
Risk Parity	5.1%	3.0%	-	-	-	-	-
Other Diversifying Assets	2.0%	5.0%					
Cash Equivalents	1.5%	1.0%	1.3%	1.4%	1.0%	2.2%	1.0%

Note: PERA's spreads its strategic asset allocation targets across four broad asset classes: global equity (43.5%), risk reduction and mitigation (21.5%), credit oriented fixed income (15%), and real assets (20%). Specific targets for individual asset classes are unavailable.
*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.
**SIC's interim target for private equity investments is 9 percent, with a long-term target of 12 percent. The STPF private equity portfolio also includes the New Mexico Private Equity Investment Program (NMPEIP), which are allowed to achieve differential rate, or "below-market" returns, but are expected to induce job and industry creation for the state.
***Economically targeted investments – by statute, up to 1 percent of the STPF is granted to the Small Business Investment Corporation (SBIC) to encourage NM business expansion and job creation. SB10 passed in the 2019 legislative session increased this allocation to 2 percent.

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, using the five-year period as a proxy for the portfolios' risk profiles over the course of a full market cycle.[1] Table 4 reports funds' standard deviation, Sharpe Ratio, and beta for the five-year period ending December 31, 2018.

Table 4: Risk Metrics, Five Years Ending 12/31/18 (Net of Fees)

	ERB	PERA	LGPF	STPF
Standard deviation	4.80	5.76	4.86	4.97
Sharpe Ratio	1.20	0.73	0.95	0.93
Beta	0.40	0.48	0.47	0.49

[1] A full market cycle is a peak-to-peak period typically containing a price decline of at least 20 percent over at least a two-month period from the previous market peak, followed by a rebound that establishes a new, higher peak.

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. The Sharpe Ratio measures the risk-adjusted performance of a portfolio. The higher the number, the higher the return-to-risk level.[2] 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 fund reported a "good" Sharpe Ratio for the five-year period (about 1), suggesting a fair level of return for the investment risk taken. Beta represents the volatility of the portfolio versus the S&P 500.[3] The beta for each of the funds was less than 0.5, indicating the portfolios are much less risky than the market.

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

ATTACHMENT 1 – INVESTMENT RETURNS