October 12, 2007

MEMORANDUM

TO: Senator John Arthur Smith, LFC Chair
Legislative Finance Committee Members

FROM: Norton Francis, LFC Chief Economist; Michelle Aubel, LFC Fiscal Analyst

SUBJECT: LFC Report of Investment Performance – FY2007 Fourth Quarter and Annual Report

Attached please find the latest quarterly investment report that covers the FY07 year end performance of the State Investment Council, the Education Retirement Board, and the Public Employees Retirement Board. The data shown in the report stops June 30, 2007, and so much of the market turmoil of the last few months is not reflected.

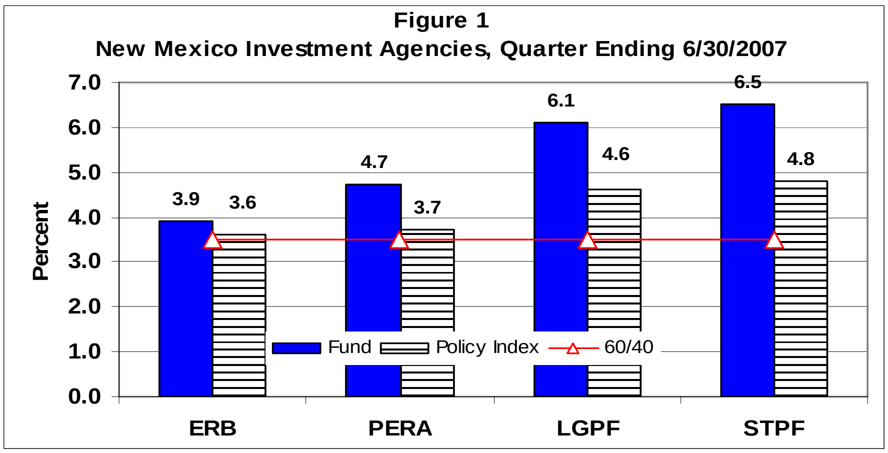
Highlights:

- All of the funds did very well for the fiscal year, returning about 18 percent.
- Total asset value is $38.1 billion, up a net $5.5 billion from FY06.
- PERA and ERB have begun to ramp up their allocations in alternative assets.
- International equity markets continue to be the star performers among asset classes, returning 30 percent and higher for the year.
- The special focus for this quarter is manager fees and how the funds compare and how they are calculated.

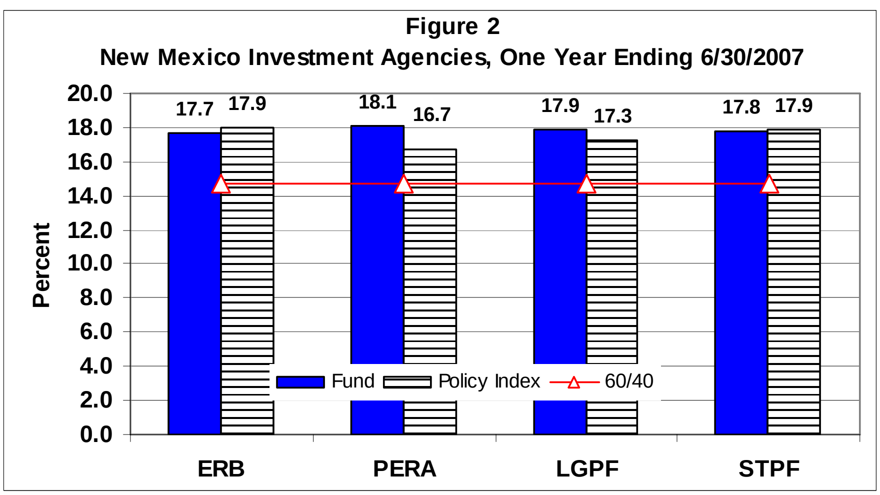
In reviewing performance among the funds, it is important to keep in mind that the funds have different asset allocations, different strategies and different restrictions. All of the funds have entered alternative investment asset classes -- which include private equity, hedge funds, real assets and real estate -- but the State Investment Council (SIC) has been allocating to these asset classes longer than the Public Employees Retirement Association (PERA) and the Educational Retirement Board (ERB), so it has higher allocations and more mature investments. SIC also has a constitutional restriction on the amount it can invest in the equity asset class that has outperformed all of the other classes. Asset allocation is discussed in more detail on page 4.

SUMMARY OF FUND PERFORMANCE

Quarter Ending June 30, 2007. Investment returns for the fourth quarter significantly rebounded from the prior quarter. As shown in Figure 1, total fund investment returns ranged between 3.9 percent and an incredible 6.5 percent for the quarter, which beat the 60 percent stock/40 percent bond index by 300 basis points (bp).[1] The Land Grant Permanent Fund (LGPF) and the Severance Tax Permanent Fund (STPF), both managed by the SIC, returned 6.1 percent and 6.5 percent respectively. PERA reported 4.7 percent while ERB reported 3.9 percent. All of the funds beat their benchmarks, with STPF outperforming by 130 bp. The "60/40" benchmark, a traditional conservative asset allocation that only includes domestic equity (60 percent) and fixed income (40 percent), returned 3.5 percent for the quarter.

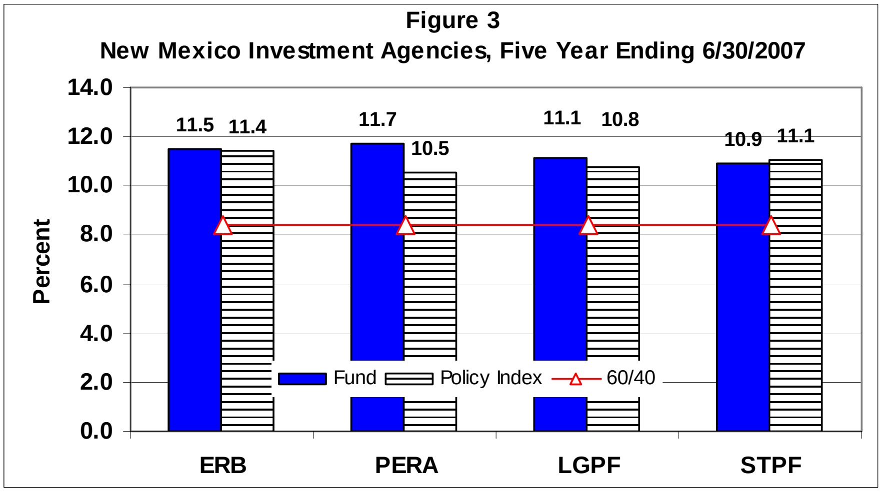


Year Ending June 30, 2007. For the one-year period ending June 30, 2007, which is also the fiscal year end, the investment program returns all exceeded 17.6 percent, with PERA having the highest return of 18.1 percent. PERA outperformed by 137 bp as did LGPF by 63 bp. STPF was just 9 bp behind its benchmark and ERB missed its benchmark by 29 bp. The returns were all higher than a straight 60/40 stock & bond portfolio, which returned 14.7 percent for the year.



[1] A basis point is 1/100 of a percent and is used for comparing percentages. For example, the difference between 5 percent and 6 percent is 100 basis points.

Five Years Ending June 30, 2007. For the five years ending June 30, 2007, only PERA notably beat its benchmark, which it did by 115 bp. LGPF slightly outperformed its benchmark return with an 11.1 percent performance while STPF returned 10.9 percent, just short of its benchmark. ERB beat its five-year benchmark by 5 bp. All funds should show sustained improvement in the five-year return as poor-performing quarters through 2001-2003 drop off. Over this longer term all of the funds performed better than if they had been in a 60/40 index, which returned 8.4 percent.



FUND ASSET VALUES

Table 1 presents changes in asset values as of June 30, 2007. The quarterly and annual asset value changes in the table reflect both contributions and disbursements to each of these funds in addition to investment returns. The total value of the funds on June 30, 2007 was $38.1 billion, up approximately $1.7 billion from total fund value of $36.4 billion as of March 31, 2006. For the fiscal year ending June 30, 2007, total fund value of all funds was up $5.5 billion from the June 30, 2006, value of $32.6 billion. PERA's fund balance includes the assets of all retirement funds at PERA, except those held at the State Treasurer's Office (STO) for operational purposes.

Table 1
Current Asset Values (millions)
For Quarter and Year Ending June 30, 2007

Quarterly	ERB	PERA*	LGPF	STPF	TOTAL
Current Asset Values (6/30/07)	$ 9,439	$ 13,283	$ 10,673	$ 4,704	$ 38,100
Value Change (Previous Quarter)	322	571	590	244	1,727
Percent Change	3.5%	4.5%	5.9%	5.5%	4.7%

Annual	ERB	PERA*	LGPF	STPF	TOTAL
Ending Asset Values (6/30/06)	$ 8,167	$ 11,311	$ 9,099	$ 4,015	$ 32,592
Value Change (Year Ago)	1,272.0	1,972.1	1,574.2	689.2	5,507.5
Percent Change	15.6%	17.4%	17.3%	17.2%	16.9%

*Excludes assets held at STO

ECONOMIC AND FINANCIAL MARKET ENVIRONMENT

The quarter ended with 3.8 percent growth in gross domestic product, up from an anemic 0.6 percent in the first quarter. For the fiscal year, growth was 1.9 percent compared to FY06 growth of 3.2 percent. Returns from the major stock indices were mostly up throughout the quarter. The Dow Jones Industrial Average ended the quarter at 13,408.62, up 20.3 percent from the previous year and up 8.5 percent for the quarter. The S&P 500, a broader index of the market, also had an impressive quarter, ending 5.8 percent higher than the previous quarter. The S&P hit a new record for the first time since 2000 in May but retreated from that high by the end of the quarter. For the year, the index was 20.6 percent ahead. The NASDAQ, which is heavily weighted with technology stocks, came out ahead of the S&P 500, ending the quarter up 7.5 percent over the last quarter and 19.8 percent above the close of the second quarter of 2006.

The quarter ended with news from Bear Stearns regarding two imploding hedge funds tied to subprime mortgage bets which caused tremors throughout the fixed income market. The Federal Reserve left its rate alone at 5.25 percent for the seventeenth time. There was a big push in the corporate bond markets as corporate bond issues hit an all time high at $277 million. The spread between safe US Treasuries and low-grade or junk bonds was tight, reflecting investors' continued appetite for bonds and downplaying the risk. The Lehman Brothers Aggregate, a core bond index, dropped 0.5 percent for the quarter and was up 6.1 percent for the fiscal year. The Lehman Brothers High Yield, a higher risk fund that includes CCC rated bonds (junk bonds), had a higher return of 0.2 percent for the quarter and 11.6 percent for the year.

ASSET ALLOCATION AND RETURN BY ASSET CLASS

The SIC funds have shifted some assets from fixed income to alternatives and equity, remaining within target ranges. PERA is still slightly above its target allocations in domestic and international equities and under the target in fixed income while it transitions its assets to include alternatives. ERB also has been moving assets out of the fixed income class and equities into alternatives, such as hedge funds, and has adjusted its target allocations correspondingly. Last quarter, ERB had a significant allocation to cash equivalents that has been invested in the alternative asset classes. Hedge funds are currently above the target.

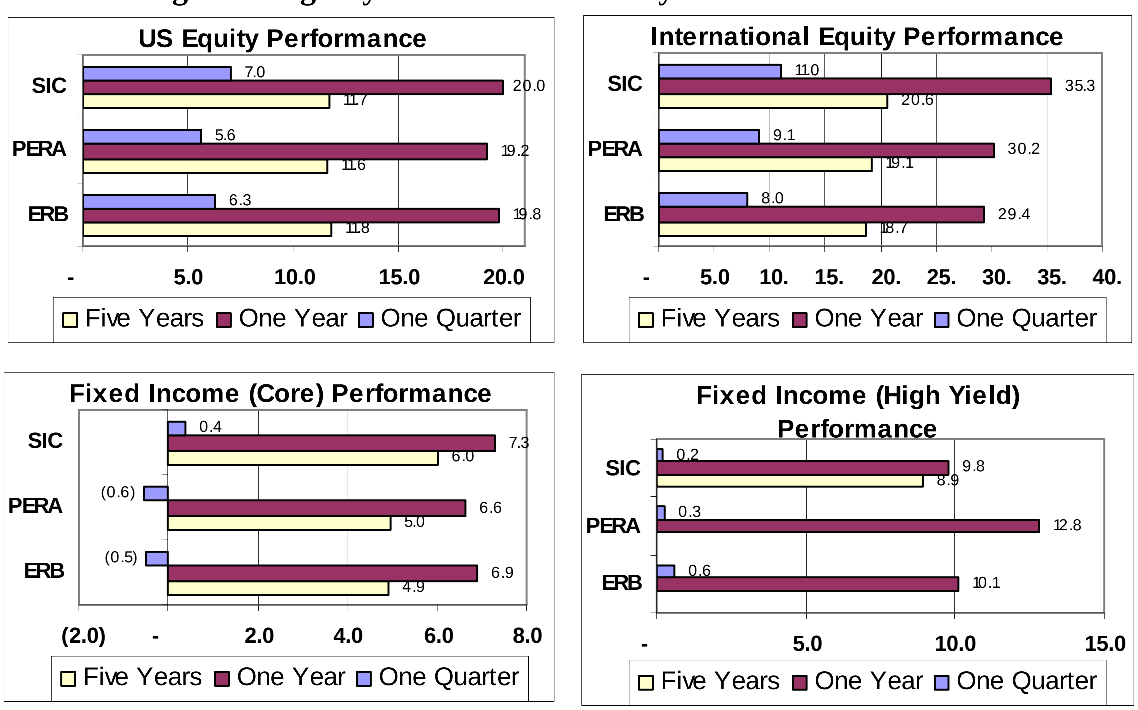
Table 2
Fund Asset Allocation Detail, Quarter Ending June 30, 2007

	ERB		PERA		LGPF		STPF	
	Actual	Target	Actual	Target	Actual	Target	Actual	Target
Total US Equity	**41%**	**40%**	**42%**	**40%**	**52%**	**53%**	**51%**	**53%**
International Equity	**20%**	**18%**	**29%**	**25%**	**12%**	**10%**	**13%**	**10%**
Total Fixed Income	**26%**	**27%**	**26%**	**35%**	**19%**	**18%**	**15%**	**12%**
Total Alternatives	**12%**	**15%**	**2%**	**0%**	**16%**	**19%**	**21%**	**25%**
Private Equity	0.6%	5.0%	0.1%		5.1%	6.0%	8.8%	12.0%
Hedge Funds	8.2%	5.0%	2.1%		9.5%	10.0%	9.3%	10.0%
Real Estate/Real Assets	3.0%	5.0%	0.0%		1.6%	3.0%	2.4%	3.0%
Cash Equivalents	0.8%	0.0%	0.5%	0.0%	0.5%	0.0%	0.7%	0.0%
Total Fund %	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Asset allocation can have a large impact on overall return. SIC is constitutionally restricted from investing more than 65 percent in total equity, with the added restriction that no more than 15 percent of the portfolio can be invested in any type of international asset.[2] In contrast, PERA has almost 70 percent invested in these two asset classes with the highest allocation by far in international equity, which has been the strongest performer of the last five years. Further, the STPF has economically-targeted investments that, although represent a small allocation, have economic development goals as well as return goals and, therefore, may produce a slight drag on overall returns. The benchmark for these funds is the 90-day Treasury bill, considered a “risk-free” investment. The high allocations to hedge funds for SIC and ERB will be the subject of scrutiny in the next quarterly report as many hedge funds had a rocky July and August.

Figure 4 shows how each fund did in the traditional asset classes: equity and fixed income. While all of the funds have done well, SIC lead the way in all but high yield fixed income for the quarter and one year. ERB edged SIC out on the core fixed income return for five years. SIC has acknowledged that it has not performed in the high yield fixed income asset class and is reallocating that asset class to a new credit and structured finance asset class.

Figure 4: Agency investment return by asset class as of 6/30/07

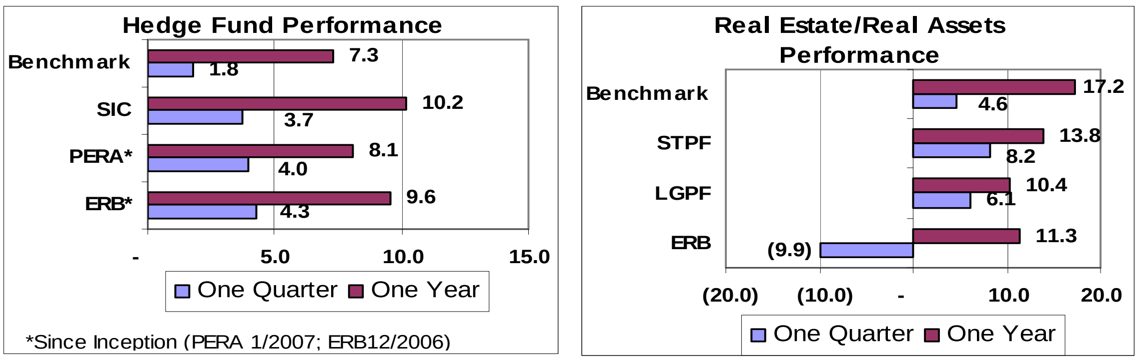


Alternatives. While it is still premature to draw conclusions from ERB’s and PERA’s investment performance for their alternative portfolios, the following graphs do provide short term snapshots of the preliminary returns for these funds. In particular, hedge funds for all three agencies for the fourth quarter easily outpaced Libor + 4 percent (2.27

[2] SIC could raise their international equity to 15 percent but then could only invest 50 percent in US Equity and make no more international investments such as an international private equity. Conversely, if SIC wanted to invest 60 percent in US equity, only 5 percent could be invested in international equity.

percent), which is a common benchmark used for an absolute return portfolio. However, each fell behind the HFRI Fund of Funds Composite Index of 4.55 percent for the same period, although PERA was not fully deployed in this asset class due its slower rollout schedule into direct investments, thereby limiting any positive diversification effects. The one-year HFRI Fund of Funds Composite Index returned 11.5 percent, over 100 bp higher than the SIC one-year return. ERB's 11.3 percent annual return and negative quarterly return in the Real Estate class is due to its REIT portfolio. Neither PERA or ERB have significant investments in real estate and real asset limited partnerships as of June 30, 2007. The one year NCREIF Property index was 17.2 percent.

Figure 5: Hedge Fund and Real Asset Performance as of 6/30/07



Note: Benchmark shown is 90-day Treasury bill plus 200 bp

ADDITIONAL DETAIL ON FUND PERFORMANCE FOR QUARTER

Table 3 below shows detailed fund performance for the quarter ending June 30, 2007. For comparison purposes, the table also provides the returns for a set of agreed-upon market benchmarks commonly used for particular asset classes. All funds except PERA outperformed the US equity benchmarks for the quarter. SIC was the leader for fixed income, turning in the only positive result, and all funds outperformed the developed country international equity benchmark.

Table 3

Fund Performance Detail (Quarter Ending 6/30/2007)

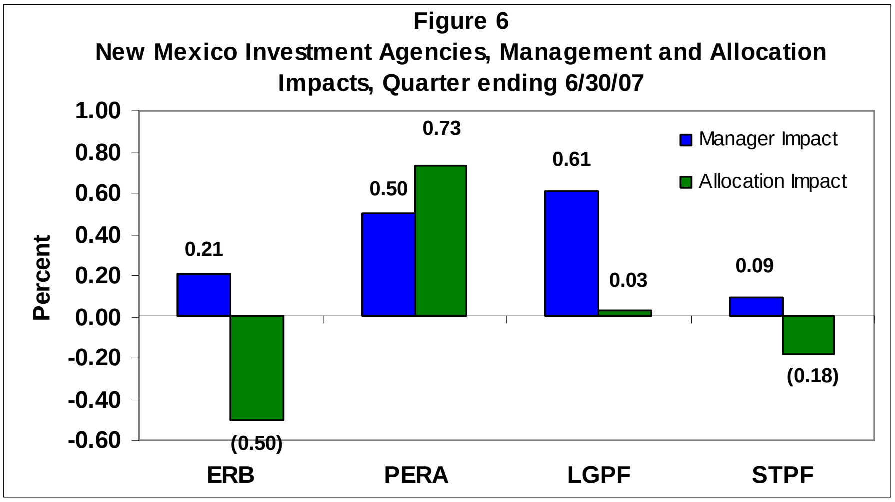
Asset Class	Benchmark**	ERB	PERA	LGPF	STPF
U.S. Equity (S&P 500)	*6.3%*	6.3%	5.6%	7.0%	7.0%
U.S. Equity (Russell 3000)	*5.8%*	6.3%	5.6%	7.0%	7.0%
U.S. Equity (Wilshire 5000 Cap Wtd)	*6.1%*	6.3%	5.6%	7.0%	7.0%
Real Estate Investment Trusts (REITS) (DJ Wilshire REIT)	*-9.4%*	-9.9%	n.a.	n.a.	n.a.
U.S. Fixed Income (LB Aggregate)	*-0.5%*	-0.5%	-0.6%	0.4%	0.4%
U.S. High Yield Bonds (ML HY)	*0.1%*	0.6%	0.3%	0.2%	0.2%
U.S. High Yield Bonds (Citi HY Cash Pay)	*0.0%*	0.6%	0.3%	0.2%	0.2%
International Equity (MSCI EAFE)	*6.4%*	8.0%	8.8%	11.0%	11.0%
Emerging Markets Equity (MSCI EMF)	*15.0%*		15.8%	16.4%	16.4%
Private Equity/Venture Capital (Cambridge Venture Capital)*	*5.8%*	3.8%		15.6%	10.4%
Real Estate (NCREIF)	*4.6%*	n.c.	n.c.	6.1%	8.2%
Hedge Funds (90 day T-bill + 200 basis points)	*1.8%*	4.3%		3.7%	3.7%
Individual Fund Policy Target		3.6%	3.7%	4.6%	4.8%
Total Fund Return		**3.9%**	**4.7%**	**6.1%**	**6.5%**

** Performance for Venture Capital is reported on a 3 to 4-month lag*

*** Benchmarks are for comparison purposes and do not necessarily correlate to the individual fund's policy targets.*

MANAGEMENT PERFORMANCE

The fund performance compared to the internal targets is made up of two primary components: manager impact and asset allocation impact. The manager impact is a measure of how the individual manager's performance compared to the performance of the related benchmark, and the allocation impact is the impact of a portfolio allocation deviating from the target (or policy) allocation.



- For the year, PERA was 137 bp above its benchmark, with both manager selection and asset allocation adding value.
- ERB had positive impact due to manager performance, while the allocation was a 50 bp drag. Overall return was 29 bp below the benchmark for the year.
- LGPF outperformed its benchmark by 63 bp: management allocation caused the bulk of the performance, adding 61 bp and allocation impact pitching in an additional 3 bp
- STPF lagged by 9 bp with management delivering a positive 9 bp and allocation impact subtracting 18 bp for the year.

Table 4 presents the risk indicators for each fund. The risk profiles of all four funds are in line with each benchmark. PERA has the lowest standard deviation, the deviation from the mean performance or a measure of volatility, and the highest Sharpe Ratio.[3] ERB has the highest volatility and the lowest Sharpe Ratio but still in line with its benchmark. The investment allocation determines the aggregate level of risk a portfolio takes on. The Sharpe ratio is just one indicator of portfolio risk. Additional risk measures will be highlighted in a future report.

[3] The Sharpe Ratio is determined by dividing the difference in return of the asset and a "risk-free" asset by the standard deviation. Although all fund advisors reported Sharpe Ratios, LFC recalculated each ratio using the return of the 90 Treasury Bill to ensure consistency.

Table 4
Risk Profiles as shown by Standard Deviations, Five Years Ending 6/30/07

	ERB	PERA	LGPF	STPF
FUND				
Standard Deviation*	9.5	7.7	8.6	8.8
Sharpe Ratio**	0.9	1.2	1.0	1.1
BENCHMARK				
Standard Deviation*	10.0	8.5	9.2	9.2
Sharpe Ratio**	0.9	0.9	0.9	1.1

* Standard deviation measures the fund's expected variability (deviation) from the expected return
** Sharpe Ratio measures the risk-adjusted performance of a portfolio The higher the number, the higher the return-to-risk level. Risk free return is 90-Day T-bill.

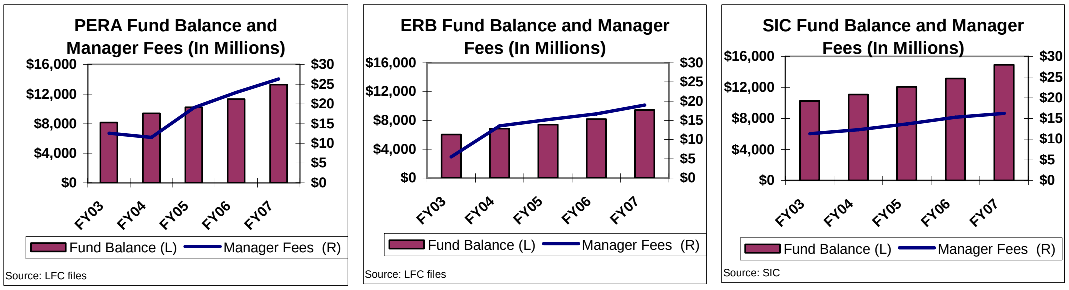
CURRENT ISSUES

- ERB has been without an Executive Director since January 2007. A search has not even been initiated because the Board has yet to determine whether it will revise the organizational structure to have both the Executive Director (ED) and the Chief Investment Officer (CIO) report directly to the Board or to maintain the current structure of a single point of responsibility resting with the Executive Director. Arguments were made in favor of the revision due to the growing complexity of the investments, requiring an increasing commitment of time that was seen as detrimental to the operations side of the agency. However, other Board members feel that a single point of contact streamlines reporting, leaves the ED with ultimate oversight and accountability, and includes the ED in the essential aspect of monitoring the investments versus placing the Board in that position. A full discussion of the issue keeps being postponed due to member absences, which becomes even more problematic due to ERB’s bimonthly schedule.
- SIC received its first return on its film loan participation. Lionsgate advanced $500,000 to SIC based on the expected return of *Employee of the Month*. As of 7/31/07, SIC has $159.6 million in outstanding loans.
- SIC has completely re-written its film loan policy, which was originally written in 2002 and has not been significantly changed since then. SIC staff felt that the policy needed to be updated to match the actual procedures the staff follows to approve and recommend loans to the council.
- SIC changed its investment policy allowing investments in derivatives, such as options and futures (including commodity futures). The change is to protect the market value of the funds from losses attributable to declines in the market. The policy expressly forbids speculative investments.
- According to the Wall Street Journal, hedge funds suffered a 1.3 percent decline in August from July amid the credit markets turmoil and hedge fund of funds declined even more. How the NM funds fared will be closely examined in the next report.

SPECIAL FOCUS

This quarter’s *Special Focus* segment takes a look at manager fees for SIC, ERB and PERA, which have risen significantly in recent years. This increase is due to several factors. Much of the growth can be attributed simply to fund growth, as shown in the figures below:

Figure 7: Fund Balance and Fee for Each Agency[4]



Internal versus external management. One major difference between the funds is how much of asset management is done with agency staff and how much is contracted to investment managers. In FY07, SIC managed 37 percent of its portfolio in-house and this is one reason for lower manager fees compared to the other funds since the "fees" for internally managed assets are the salaries, software and equipment necessary to monitor and trade. ERB and PERA currently rely more on external managers, which pushes up their fees relative to fund balance.

Active versus passive management. Another source of the growth in fees relates to the type of management used to administer each asset class. Passive management, or "indexing," relates to systematic (market) returns that are quantified by "beta." Passive management is tied to the market, or index, and would follow the market. "Alpha" is a measure of excess return net of any beta effects and represents the skill the manger brings; it is unrelated to the market. Active management is viewed in relation to a manager's benchmark. The amount over the benchmark, or alpha, represents the value added by the manager. In general, institutional funds are willing to pay more for that added value brought by the active management; thus, as a fund moves more money from internally-managed or passive accounts into active management one would anticipate that the manager fees would increase. As shown by comparing figures 9 and 10, this is exactly what ERB experienced as it moved its fixed income allocations from internal management to active management during FY06, partly accounting for a $3 million increase in investment fees over this period.

[4] Since manager fees reflect the fees over the course of a year, fund balance is the average of the starting balance and the ending balance rather than the year end balance.

Figure 9

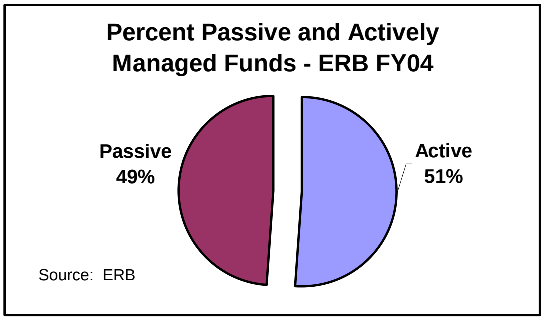
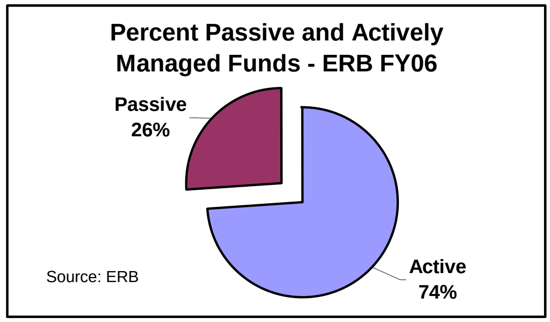


Figure 10



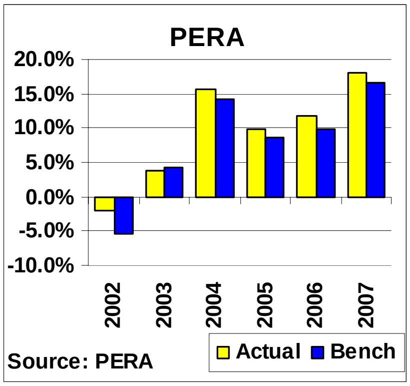
Whether a manager, or a set of managers for an asset class, is able to deliver the expected alpha is constantly monitored by both the agencies and LFC staff. Typically, where markets are very efficient, managers are not able to "beat the market" over the long term, with any out-performance at some point matched by under-performance in a "reversion to the mean." A good example is provided by PERA's 10-year performance of 5.87 percent for large cap equities versus the index of 5.29, which basically becomes even for the period after fees are deducted. In this case, since no alpha is being delivered by the managers for that asset class, the mandate could be indexed at a lower cost. As an alternative, the agency may implement an alternative strategy to try to capture an uncorrelated equity-like return with lower volatility, such as portable alpha.

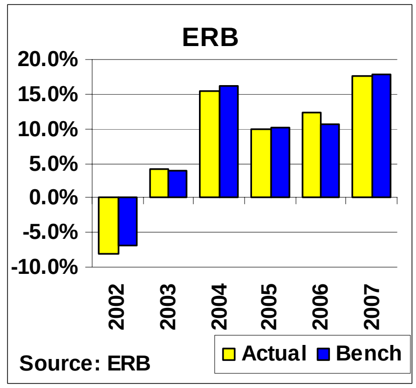
Types of Fees. Prior to the 1980's, investment managers charged an asset-based fee (ABF), a fee for services computed as a declining percentage of assets. Since then performance fees have emerged. A performance fee (PF) arrangement begins with a smaller percentage of assets as a base fee and then adds fees contingent upon performance, which is defined by some agreed-upon return in excess of the benchmark (also called "normal fee.") The base fee is earned regardless of performance. Usually the performance fee is capped, where a maximum is reached regardless of excess return. Proponents of the PF note the following two primary benefits:

- PFs are more equitable because the manager receives fess only when the client has performed above a baseline. Under an ABF arrangement, an underperforming manager is paid the same regardless of return; and
- PFs better align the interests of the asset manager and client by tying compensation to superior performance.

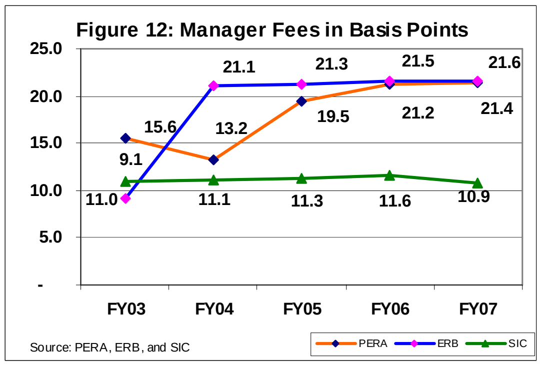
While the investment world remains divided on the merits of either system, the superior performance both agencies have experienced over the last four years has consequently produced performance fees, another contributor to the overall growth in fees. Because these fees are lagged and show up in subsequent quarters from when truly "earned," they produce an upward momentum to fees. Conversely, during the pre-2004 years when performance was less stellar, fees were correspondingly much lower. Thus, performance fees have become a significant factor in assessing the overall manager fee scenario. The following charts show the annual return performance relative to the benchmark for PERA and ERB, illustrating why the move to performance based fees has caused overall fees to rise.

Figure 11: Agency Performance – Annual Return Relative to Benchmark





Manager Fees Compared to Peers. Manager fees are the "cost of doing business" for an institutional fund. Thus, viewing the fees in relation to the fund balance is important to assess whether they are excessive or reasonable. Figure 12 provides agencies' manager fees as a percentage of fund assets over the last five years shown in basis points.



In terms of basis points, ERB's management fees have been stable since FY04, when the International Commingled fund fee was added to the management fees through the voucher process versus simply being directly deducted from the investment account to produce a return net of fees. This change accounts for $1.4 million of the jump in fees from FY03 to FY04. In addition, two managers with ABF contracts were replaced with managers using a PF contract during 2004. For both ERB and PERA, poor performance in 2001, 2002 and 2003 would have produced the lower base fees without the additional normal fee component. PERA appears to be leveling off around a similar 21 bp level.

PERA's general consultant prepares an annual analysis of administrative and investment expenses, which includes a comparison to peers. Focusing only on manager fees produces the following peer comparison as of June 30, 2006 by fund size:

Table 5 – Average Manager Fee Summary For Pension Fund Peers (in basis points)

$100-$500 Million	$500mm - $1 Billion	$1 - $5 Billion	$5 - $10 Billion	$10 - $20 Billion	Over $20 Billion
60.11	51.41	43.87	40.68	**24.47**	27.39

As expected, as the fund size grows the expenses expressed in bp declines, with the greatest breakpoint occurring after a fund reaches $10 billion. At 21.5 bp and 21.2 bp respectively, both ERB and PERA fall below this peer average of 24.47 bp, suggesting that the manager fees have been reasonable for both agencies. SIC is significantly below the peer average. Not only does SIC internally manage a large share of its assets but it typically requires fees to be no more than 25 basis points.

Alternative Management Fees. "Commingled Fund" fees are usually paid directly from the funds invested rather than by voucher. Thus, if a fund invests in them, the true aggregate fees paid by the agency are not reported. ERB's commingled component of their portfolio that became visible in terms of manager fees in FY04 through the vouchering process is an example of this phenomenon. PERA has not invested any traditional assets (stocks and bonds) using any commingled funds thus far. However, PERA points out that most alternative investments -- private equity, hedge funds and real estate -- have a performance fee and/or base fee component that is deducted from the "pool" or fund assets instead of being paid via a voucher. Therefore, as both agencies migrate up to 15 percent of assets into these alternative categories, the related "pooled" fees will miss the appropriation process and total fees will be underreported unless a system is initiated to "capture" these fees.

Capturing those fees is not particularly onerous since the two pieces—the size of the commitment and the percentage—are known. Currently they are not being reported but a special table could be compiled. For example, when SIC, which has the most experience in alternative investments, invests in a private equity fund, the contract is for a specified commitment and identifies the rate the manager will be charging the fund.[5] So for a commitment of $30 million and a rate of 1.5 percent, the manager is taking $450,000 per year to manage. There are also considerable performance fees (often 20 percent) for profits.

Manger fees for alternative investments are typically higher than those for traditional assets and can run up to 200 bp. Thus, transparency of manager fees for the alternative asset classes is a potential concern, especially when analyzing whether the additional costs associated with the alternative investments, including the higher manager fees, are outweighed by the anticipated benefits of lowered volatility and sustainable alpha returns.

A secondary consequence is that returns for traditional assets will be reported *gross* of fees while returns for hedge funds will be reported *net* of fees. For the private equity and real estate asset classes, the expenses and fees are advanced by the fund separately; the return, however, may be calculated both gross and net of manager fees and expenses. LFC is working with investing agencies to ensure that the reporting is consistent.

[5] Note that the manager fee is based on "committed" amounts and not invested or deployed amounts. This means that it is also crucial to monitor a manager's investment strategy to verify that funds are being invested on a timely basis. However, market conditions themselves can delay or accelerate investments.