COST EFFECTIVENESS AND FEE ANALYSIS

SAN BERNARDINO EMPLOYEES' RETIREMENT ASSOCIATION

SBcera
San Bernardino County Employees' Retirement Association

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NEPC

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OBJECTIVES

- **Measuring Fees Paid and Evaluating Cost Effectiveness**
  - Provide an overview of the types of fees paid across asset classes
  - Outline investment management fees paid across all SBCERA asset classes and portfolios
  - Evaluate cost effectiveness of the fund's overall portfolio structure based on the following criteria:
    - Examine fee efficiency within asset classes
    - Consider fees in conjunction with active return
    - Consider fees in conjunction with risk adjusted returns (Sharpe ratio)

PUBLIC MARKETS FEE OVERVIEW

Within Public Markets (Both Equity & Fixed) there are 3 general types of Fee structures:

1. **Flat Fee**
   – A flat basis point fee that is charged no matter the size of the mandate
   – Typically used for passive or indexed mandates

2. **Tier or Asset-Based Fee (Declining Marginal Rate Fee Structure)**
   – A fee schedule that includes breakpoints or “Tiers” based on the size of the mandate
   – The breakpoints will provide lower fees as the amount of assets grows
   – These fee structures are offered by passive and active managers and are the most prominently used (100 bps on the first $50 mm, 75 bps on the next $50 mm, with 50 bps on assets over $100mm)

3. **Performance-Based Fee**
   – A fee schedule that includes the ability for the manager to profit from the performance of a portfolio
   – The fee is compromised of a base fee, which is substantially lower than the customary or normal fee, and a performance component that is earned or exceeded only when the manager earns a required excess returns

   Notes:
   – Performance fees do not lead to better performance
   – Clients may be able to negotiate better fees using the performance fee approach, since manager most-favored-nation restrictions are less binding
   – When managers seriously underperform, the optics are better, but in rising markets fees can be noticeably higher

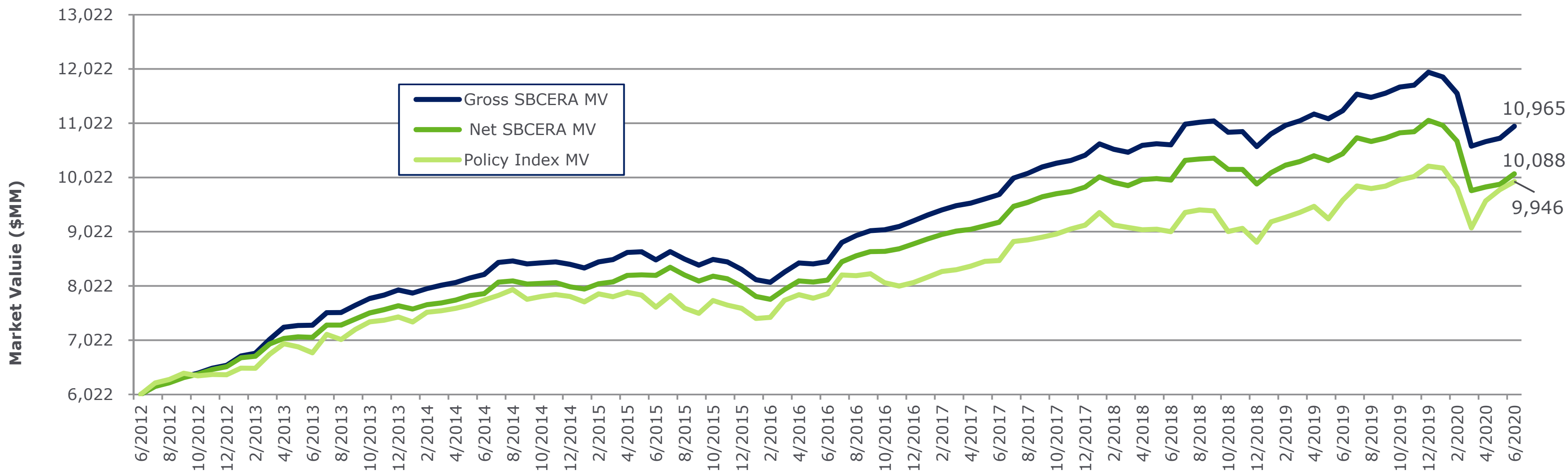
PRIVATE EQUITY/HEDGE FUND FEE OVERVIEW

Within the private markets and hedge fund fees, there are different types of fee structures which depend on the type of vehicle:

1. **Private Market Fee Structures**
   - Fees are typically much higher than for public market assets
   - Fees structures often include the following components:
     - Management Fee – Typically 1-2%
     - Performance Fee or "carry" – Typically 20% of performance above a preferred return payable after all capital is returned
     - Preferred return or "hurdle rate" which needs to be attained in order to earn the performance fee– Typically 6-10%
   - Fees often paid on committed, not invested capital, although this is changing

2. **Hedge Fund Fee Structures**
   - Fees are very high compared to traditional managers
   - Fees are made up of two components:
     - Management Fee
       - A fixed fee usually determined as a percentage of assets
       - Typically between 1-3%
     - Performance Fee:
       - Based on net new performance
       - Generally subject to a "highwater mark" or max fee
       - Typically between 15-30% of performance, which can be either above a hurdle or simply a positive return

PERFORMANCE SUMMARY AND FEE MARGINS – FISCAL YEARS ENDING JUNE 30, 2020



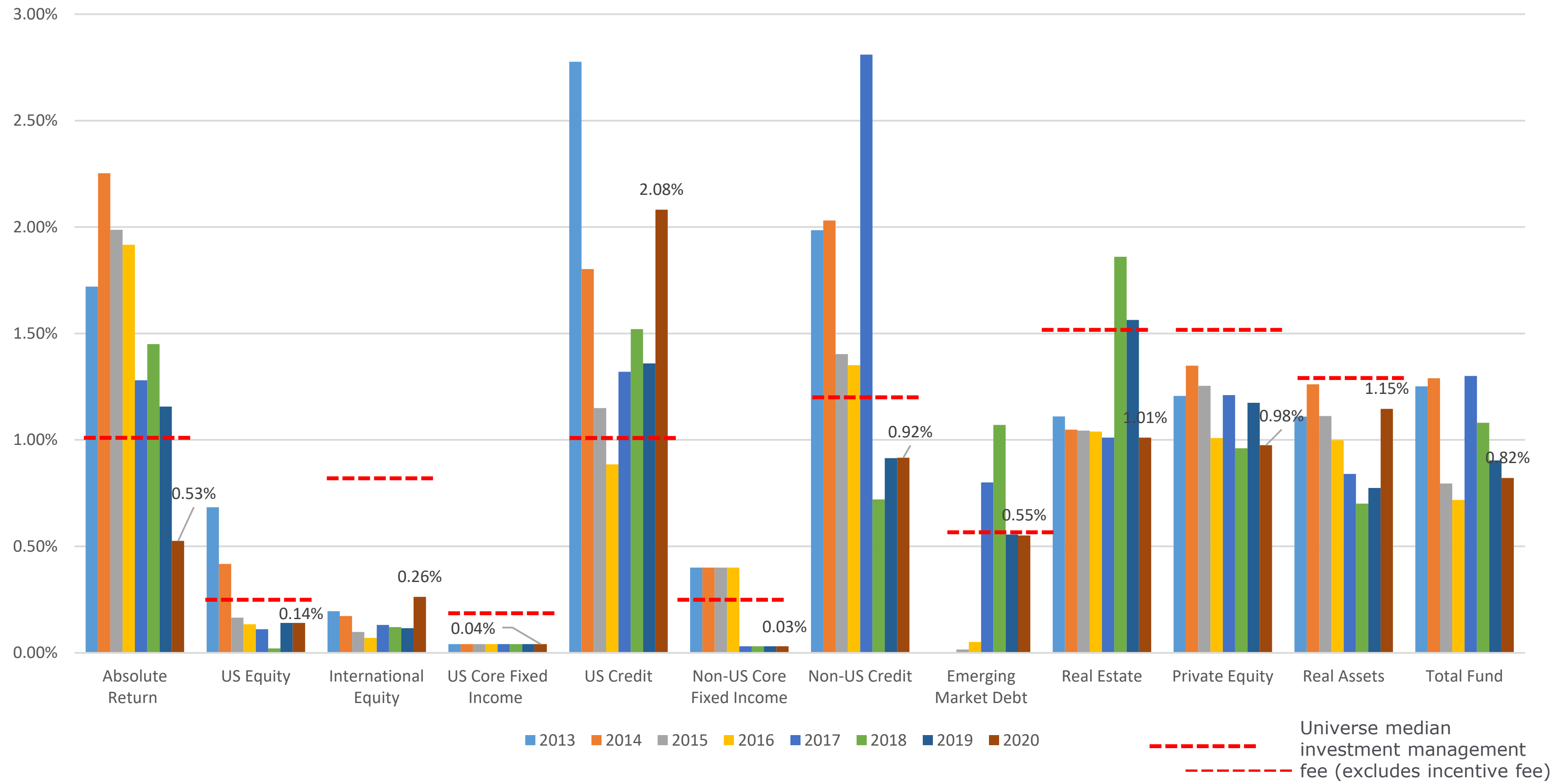
	2013	2014	2015	2016	2017	2018	2019	2020	8 Yr Return Cumulative	8 Yr Return Annualized
SBCERA (Gross of Fees)	16.3	12.8	5.2	-0.1	14.7	9.9	5.8	-2.4	79.9	7.6
SBCERA (Net of Fees)	15.0	11.5	4.4	-0.8	13.3	8.8	4.8	-3.2	66.0	6.5
Policy Index	8.2	14.4	0.4	3.5	8.0	6.9	6.2	3.7	63.6	6.3
Excess (Gross of Fees)	8.1	-1.6	4.8	-3.6	6.7	3.1	-0.5	-6.1	16.3	1.3
Excess (Net of Fees)	6.8	-2.9	4.0	-4.3	5.2	1.9	-1.4	-6.9	2.3	0.3

	2013	2014	2015	2016	2017	2018	2019	2020	Total
Gross of Fee Investment P/L ($MM)	1,011	954	434	-13	1,262	974	617	-275	4,963
Actual Mgmt & Incentive Fees ($MM)	-79	-93	-64	-60	-107	-100	-91	-86	-680
Actual Net Investment P/L ($MM)	922	888	292	-67	1,110	804	473	-358	4,065
Policy Index P/L ($MM)	503	990	34	263	638	594	566	356	3,944
Gross of Fee Excess Return ($MM)	508	-37	400	-276	624	380	51	-631	1,019
Net of Fee Excess Return ($MM)	419	-102	258	-330	472	210	-93	-714	120
Multiple of Excess Return to Fees	6.4x	-0.4x	6.2x	-4.6x	5.8x	3.8x	0.6x	-7.3x	1.5x

For every $1 in fee paid, the Plan gained $1.5 in excess return

Note – Fee data source is SBCERA Fiscal Services. There may be timing differences between this analysis and NEPC's performance reports as this analysis combines SBCERA Fiscal Services data with time weighted rates of return.

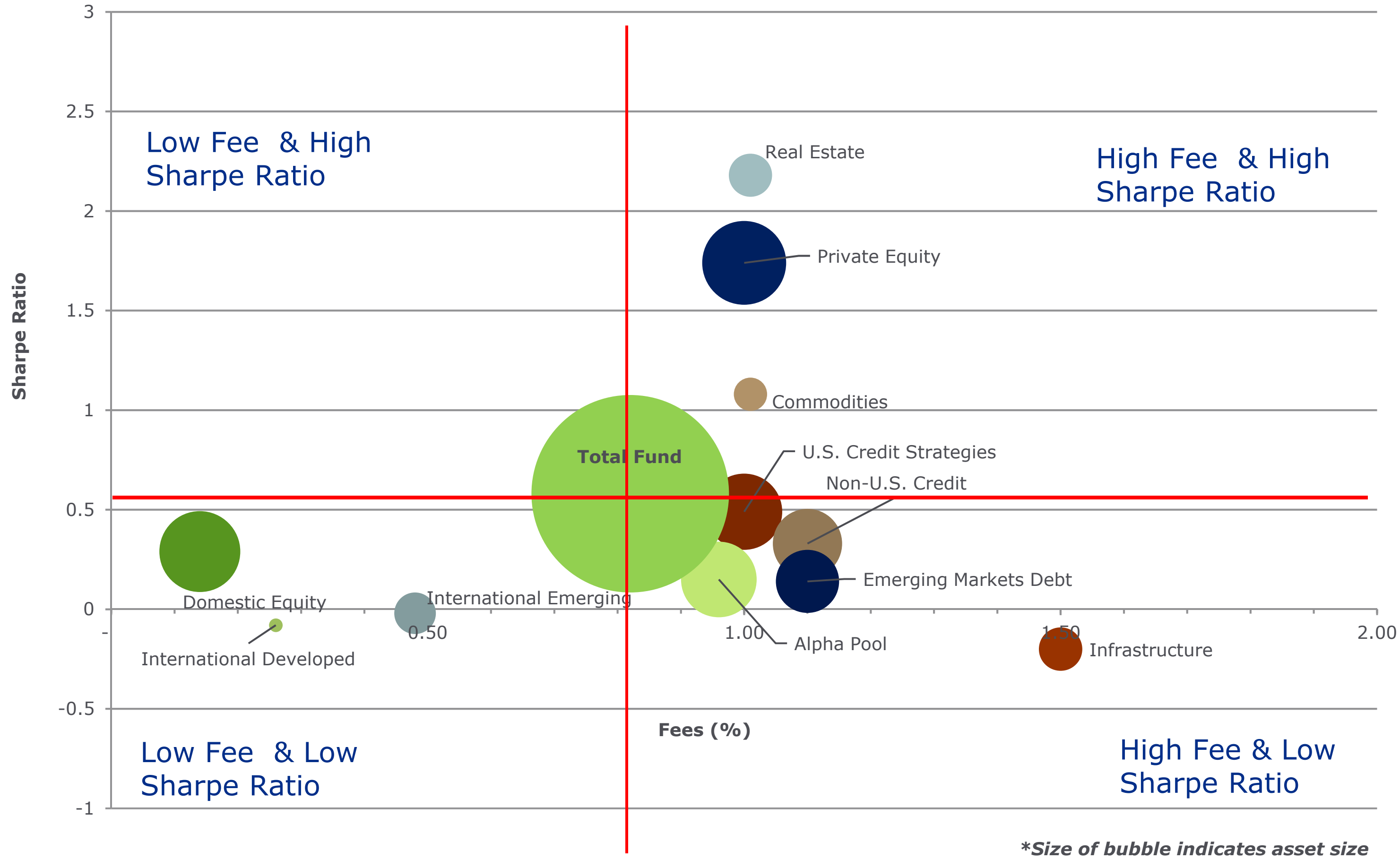
ASSET CLASS SUMMARY - YOY TOTAL MANAGEMENT FEES + INCENTIVE FEES PAID

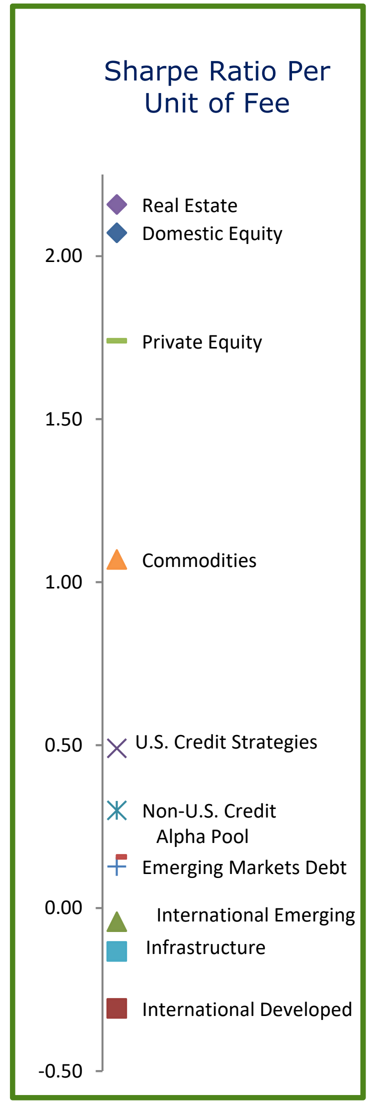


- **Investment management fee structures negotiated align interests of the plan (investment performance) with fees paid**
  - Total Fund Fees have been decreasing over the past four years

Note – Fee data source is SBCERA Fiscal Services

COST EFFECTIVENESS 5 YEARS





Note: Sharpe ratios shown are net of fee.

- **Total Fund Net of Fee Sharpe ratio is 0.58 and ranks in the 14th percentile in PF>$1B Net of Fee Universe**
- **Policy Index Sharpe ratio is 0.62 and ranks in the 7th percentile in PF>$1B Net of Fee Universe**

CONCLUSIONS

- **Overall, fiscal year 2020 costs were in line with expectations**
  - Credit strategies underperformed in the short-run (significantly due to lagged valuations which largely corrected in Q3 and Q4 2020) and therefore were less cost effective per unit of risk adjusted return when compared to prior years

- **Total Fund underperformed the benchmark in fiscal year 2020, reducing the long-term cost effectiveness of the Plan**
  - This is not expected to persist as commitments to private markets are expected to result in a higher cost portfolio with higher expected return and Sharpe ratio
  - Lower fees in a vast majority of public markets and private markets reflects Staff and Plan investment beliefs

- **Private Equity and Real Estate are the largest contributors to risk adjusted returns in the past five years**

- **For every $1 of management and incentive fees paid out, $1.5 of excess return to the plan was earned in the eight years that the Plan has been tracking fees at this level of granularity**

- **A majority of assets rank highly versus peer universe investment management fees**

- **The lowest cost portfolio is not necessarily a portfolio that will meet your risk/return objectives**
  - Private market and alternative investments have produced the highest risk adjusted returns at attractive fee levels when ranked against peers

- **SBCERA overall fees are generally in line with fees paid by other NEPC clients with similar asset structures**

APPENDIX

NEPC, LLC

EXAMPLE OF A PRIVATE EQUITY FUND WITH ONE LP AND ONE PORTFOLIO COMPANY

- **Simplified example of a private equity fund structure**
  - $100 million fund with one $100 million LP investor
  - Fund has a two year investment period
  - GP charges a management fee of 2.0% of commitments during investment period
  - GP charges a management fee of 2.0% of invested capital thereafter
  - Fund has an 8% cumulative preferred return
  - GP carry rate is 20%

- **Simplified example of how it was invested**
  - ***Year One:***
    - Capital called for management fees (based on commitments)
    - No investments are made
  - Year Two:
    - Capital called for management fees (based on commitments)
    - A $90 million investment is made into Company A
  - Year Three:
    - Capital called for management fees (based on invested capital)
    - Company A is doing well and its valuation is increased by $10 million
  - Year Four:
    - Capital called for management fees (based on invested capital)
    - Company A is sold for $200 million

YEAR BY YEAR ACCOUNTING FOR THE FUND INVESTMENT BY THE LP

Accounting Entries

- **Year One**
  - DR Management Fee Expense $2.0 million
    CR Cash $2.0 million
  - Pay management fees at 2.0% of committed capital
- **Year Two**
  - DR Management Fee Expense $2.0 million
    DR Investments @ Cost $90.0 million
    CR Cash $92.0 million
  - Pay management fees at 2.0% of committed capital
  - Record $90 million cost of investment
- **Year Three**
  - DR Management Fee Expense $1.8 million
    CR Cash $1.8 million
  - DR Investments @ Fair Value $10.0 million
    CR Unrealized Gain $10.0 million
  - Pay management fees at 2.0% of invested capital (since fund is fully invested)
  - Record $10 million appreciation in value of investment (unrealized gain)
- **Year Four**
  - DR Management Fee Expense $1.8 million
    CR Cash $1.8 million
  - DR Cash $178.0 million
    DR Unrealized Gain $10.0 million
    CR Investments @ Cost $90.0 million
    CR Realized Gain $88.0 million
  - Pay management fees at 2.0% of invested capital (since fund is fully invested)
  - Receive $178.0 million in distributions (see next page for distribution waterfall of how this amount was computed)
  - Reduce investment cost by $90 million to $0
  - Record new net gains of $88.0 million ($98.0 million of realized gain less $10 million of prior unrealized gain)

DR = Debit; CR = Credit

HOW A HEDGE FUND'S PERFORMANCE WOULD BE REPORTED BY THE LP

Year End Performance Reporting

- **Performance Reporting:**
  - ***Year One***: Investment multiple of 0.0x and IRR of -100.0% reflect that all capital contributions during the 1st year were to pay management fees
  - ***Year Two***: Performance multiple and IRR are still negative, reflecting that cumulative management fees were in excess of any investment appreciation
  - ***Year Three***: Performance multiple and IRR turn positive as unrealized gains on the investment were in excess of cumulative management fees
  - ***Year Four***: Represents fully realized performance of the fund, net of management fees and net of carried interest paid to GP

- **Performance Table:**

Date (End of Year)	Commitment	Unfunded Commitment	Capital Contributed	Distributions	Current Value	Total Value	Total Gain (Loss)	Total Value to Paid-In Capital	Net IRR
Year 1	$ 100,000,000	$ 98,000,000	$ 2,000,000	$ -	$ -	$ -	$ (2,000,000)	0.00 x	-100.0%
Year 2	$ 100,000,000	$ 6,000,000	$ 94,000,000	$ -	$ 90,000,000	$ 90,000,000	$ (4,000,000)	0.96 x	-4.2%
Year 3	$ 100,000,000	$ 4,200,000	$ 95,800,000	$ -	$ 102,000,000	$ 102,000,000	$ 4,200,000	1.06 x	3.2%
Year 4	$ 100,000,000	$ 2,400,000	$ 97,600,000	$ 178,000,000	$ -	$ 178,000,000	$ 80,400,000	1.82 x	22.4%

IMPORTANT CONSIDERATIONS

- **Important Considerations**
  - Focus on investment management fees and incentive fees
  - Fees paid are primarily driven by plan investment beliefs and two decisions:
    - How much in alternatives
    - How much in passive vs. active strategies
  - While fee efficiency should be a focus of every fiduciary, over long time periods, investors may be rewarded by investing in higher fee strategies

ANALYSIS CONSIDERATIONS

- **3 – year return statistics used in the analysis ending June 30, 2020 to evaluate performance relative to appropriate benchmarks.**
    - Some level of caution is appropriate as this analysis is time period specific

- **Alternative asset classes present evaluation difficulties.**
    - Subject to a variety of style and implementation differences
        - Program maturity and J-Curve effect can dramatically impact results
        - Management fees are often rebated before performance fees are assessed in private markets asset classes
        - Miscellaneous fees not always tracked

- **Universe comparisons are subject to potential biases:**
    - Peer group definition
    - Changing composition of peer group
    - Survivorship bias and back fill bias in manager universes
    - Fee definition and treatment