## Callan

June 30, 2019

Alaska Industrial Development and Export Authority

Investment Measurement Service Quarterly Review



Callan LLC 1900 16th Street Suite 1175 Denver, CO 80202 Main 303.861.1900 Fax 303.832.8230 www.callan.com

August 1, 2019

Ms. Brenda Applegate
Chief Financial Officer
Alaska Industrial Development and Export Authority
813 West Northern Lights Blvd.
Anchorage, AK 99503

RE: Performance Report for Periods Ending June 30, 2019

Dear Brenda:

This letter serves to highlight the important observations from the most recent quarterly performance report. The format of the letter is to review the market environment, total fund results, and managers' performance.

#### **General Economic Conditions**

Economists are fond of saying that expansions do not die of old age; they must be killed. As the U.S. enters its 121<sup>st</sup> month of expansion, the longest on record, the eventuality and timing of a U.S. recession remains front and center for investors. At its June meeting, the Fed announced a relatively new policy objective—to "sustain the expansion"—and U.S. Treasury and stock markets rejoiced in tandem. Stock markets approached record highs, and the 10-year U.S. Treasury yield hit a multi-year low.

Outside of the U.S., global growth continued to decelerate but remained positive. Central banks generally expressed willingness to engage in further stimulus measures as needed. A persistent lack of inflation, at least according to traditional measures, remains a conundrum and a key challenge around the world. Trade talks with several countries are fluid; a no-deal Brexit this October is no longer a remote possibility; and tensions with Iran are mounting. All of these issues, combined with the distractions associated with the 2020 election in the U.S., pose additional variables for investors to untangle.

The U.S. economic picture continues to be mixed. A strong labor market and rising personal income have supported consumer spending, which accounts for roughly 70% of GDP. Initial estimates of second quarter GDP came in at 2.1%, down from the 3.1% posted in the first quarter. In the second quarter, Growth was fueled by strong consumer spending. Business investment contracted for the first time in more than three years, and housing declined for a 6th consecutive quarter, which may be early indications of future economic slowing. Unemployment hovers at a five-year low of 3.6%. Wage growth, as measured by private sector average hourly earnings, remains sluggish (+3.1% y-o-y in

May). The most recent (June) Purchasing Managers' Index continued to signal expansion (above 50), with a reading of 51.7, however, the figure is sharply off from its August 2018 peak of 60.8. In addition, inflation remains elusive with the headline Consumer Price Index (CPI) up 1.8% in May (y-o-y) and Core (excluding food and energy) up 2.0%. The Fed's preferred inflation gauge, the Core PCE Deflator, is still falling short of its 2% target and rose only 1.6% over the trailing year.

The Fed left rates on hold at its June meeting, but comments from Chairman Powell were interpreted to be dovish and that cuts would be imminent. As of quarter-end, markets had priced in a 100% probability of a rate cut in July, and the probability of three additional 25 bps cuts in 2019 was greater than 50%. The first of these predictions came to fruition at the July meeting when the Fed cut target rates by 25 bps.

Overseas, European Central Bank (ECB) President Mario Draghi emboldened investors with comments that rates could be cut and/or asset purchase programs restarted if inflation does not reach the bank's target. Following those remarks, the German 10-year government bond yield hit a new record low and continued to trend lower into quarter-end, closing the quarter at -0.33%. (The policy rate remained unchanged at -0.40%.) Inflation in the euro area was +1.2% (y-o-y) in May and the lowest monthly rate since April of 2018. GDP was barely positive in the euro area (+1.2% y-o-y) and while Q1 GDP for Japan (+2.2% annualized) beat expectations, growth is expected to slow for the export-driven country. Inflation continues to be almost non-existent in Japan; +0.8% y-o-y in May. Manufacturing remained a key source of weakness in Europe and Asia with trade tariffs and tepid global demand being key drivers.

## **Fixed Income**

The Fed maintained its target range for the Federal Funds Rate at 2.25% to 2.50% in the second quarter, but struck a more dovish tone indicating that rate cuts could be on the horizon for 2019. Following its June meeting, the Fed removed the word "patient" in describing its approach to policy normalization and instead stated that it will "closely monitor" developments going forward. Given the Fed's more accommodative stance, yields on U.S. Treasury bonds fell across the maturity spectrum in the second quarter. One- to five-year maturities experienced the largest drops in yield, with the 10-year falling 41 bps to 2.00%. The spread between the three-month and the 10-year maturities ended the quarter in negative territory, however, the more closely monitored 2-year and 10-year spread actually steepened to 25 bps from 14 bps last quarter.

The Bloomberg Barclays US Aggregate Bond Index climbed 3.1% in the second quarter. Investment-grade credit performed particularly well (Bloomberg Barclays Corporate: +4.3%), supported by technical tailwinds of lighter supply and heightened demand. Investment grade credit spreads tightened 4 bps during the quarter to 115 bps. The high yield corporate bond market (Bloomberg Barclays High Yield: +2.5%) underperformed investment grade but is up nearly 10% year-to-date. Mortgage backed securities trailed other sectors with the Bloomberg Barclays Mortgage Backed Securities Index appreciating 2.0%. RMBS was challenged as pre-payment concerns grew on the back of lower mortgage rates. TIPS (Bloomberg Barclays TIPS: +2.9%) underperformed as inflation expectations fell.

#### **AIDEA Portfolio**

As of June 30, 2019, the total portfolio had assets of \$502.5 million, an increase of \$15.3 million from the end of the first quarter. Investments produced a gain of \$12.6 million and net new inflows totaled \$2.8 million during the quarter. The total return of the internally managed and externally managed portfolios was 2.56% for the second quarter of 2019, falling just short of the benchmark return of 2.70%, which is comprised of 84.5% Bloomberg Aggregate Index and 15.5% 3-month T-Bills. For the 2019 fiscal year, the total portfolio generated a strong, absolute 6.64% gain, which trailed the target return by 34 basis points.

## **Investment Manager Commentary**

The return of the Enterprise Development Fund was 0.59% for the quarter, which slightly underperformed the return of the 3-month T-Bill (0.64%). For fiscal year 2019, the fund returned 2.23% and ranked in the 29<sup>th</sup> percentile in Callan's Money Market Funds database, which consists of actively managed short term funds.

## **Externally Managed Products**

Alaska Permanent Capital Management (APCM) is the more conservative of the two externally managed bond portfolios and tends to look most like the benchmark. The manager produced a 3.00% return in the first guarter of 2019, which ranked in the 86th percentile of Callan's Core Fixed Income peer group. APCM modestly underperformed the Bloomberg Aggregate Index's return of 3.08% over the same period. The portfolio maintained an underweight allocation to credit compared to the benchmark, which hurt relative returns as credit spreads tightened slightly during the second quarter. APCM was overweight MBS, which also detracted from relative performance as mortgage rates fell and prepayment risks climbed. Yield-to-maturity and duration both remain slightly below the index. Over the past year, the fund generated a 7.39% return and ranked in the 95<sup>th</sup> percentile. The APCM portfolio ranks in the bottom decile of Core Bond peers on a gross of fee performance basis over the trailing one-, two-, three- and five-year periods. The manager's Sharpe ratio also ranks in the bottom decile over the trailing five-year period. APCM has a focus on preserving capital for AIDEA and implements a conservative portfolio. In a strong market for fixed income, APCM is not expected to keep up with other managers that are taking more credit risk. However, APCM has underperformed their benchmark over the last five year period. Callan continues to monitor APCM and will discuss performance with the Board.

**Barrow Hanley** has over five years of history with AIDEA. The portfolio gained 3.14% in the second quarter, outpacing the Bloomberg Aggregate Index by 6 basis points and placing the fund in the 61<sup>st</sup> percentile among peers. The manager was overweight credit in the second quarter which supported performance as credit spreads tightened. The portfolio's U.S. Treasury allocation had a higher duration than the benchmark which also benefitted the fund as yields fell. Poor security selection within industrials, MBS, and ABS all detracted from relative returns. Overweights to MBS and ABS hurt relative returns as those sectors underperformed the overall benchmark. Over the trailing 12 months, the fund returned 7.94% and ranked in the 76<sup>th</sup> percentile among peers.

Yours truly,

Gordon M. Weightman, CFA

Senior Vice President

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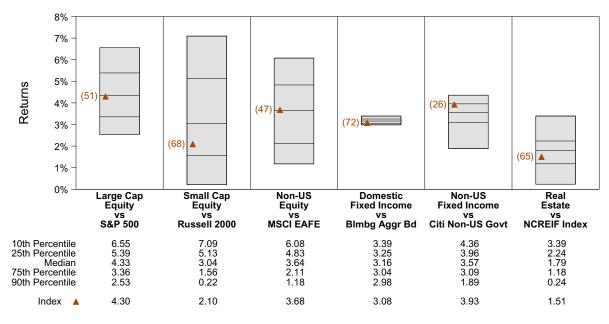
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## Market Overview Active Management vs Index Returns

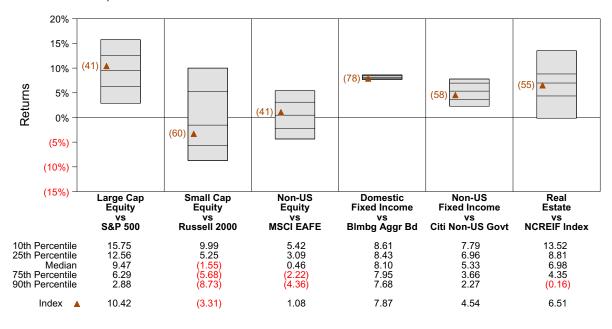
#### **Market Overview**

The charts below illustrate the range of returns across managers in Callan's Separate Account database over the most recent one quarter and one year time periods. The database is broken down by asset class to illustrate the difference in returns across those asset classes. An appropriate index is also shown for each asset class for comparison purposes. As an example, the first bar in the upper chart illustrates the range of returns for domestic equity managers over the last quarter. The triangle represents the S&P 500 return. The number next to the triangle represents the ranking of the S&P 500 in the Large Cap Equity manager database.

## Range of Separate Account Manager Returns by Asset Class One Quarter Ended June 30, 2019



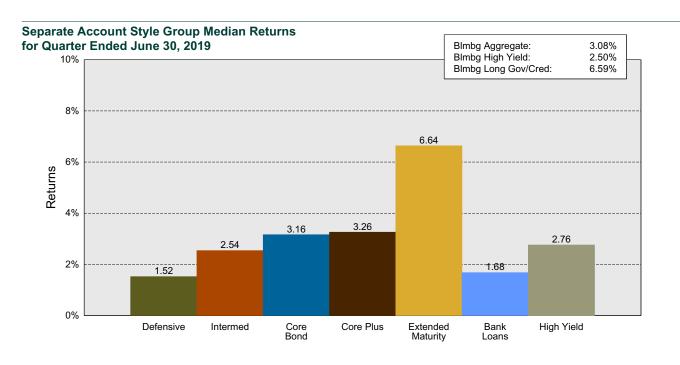
## Range of Separate Account Manager Returns by Asset Class One Year Ended June 30, 2019

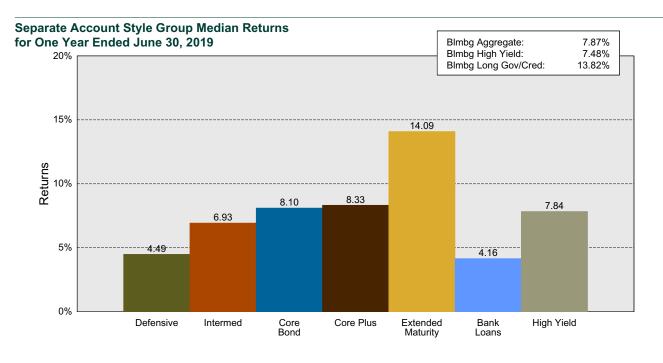




## Domestic Fixed Income Active Management Overview

In the U.S., the Bloomberg Barclays US Aggregate Bond Index rose 3.1% for the quarter. U.S. Treasury yields hit multi-year lows in June, and the 10-year closed the quarter at 2.0% (lowest since 11/2016). The curve remained inverted between the 90-day T-bill and the 10-year U.S. Treasury, but the more widely watched spread between the 2- and 10-year widened during the quarter to 25 bps. Investment grade corporate bonds performed best (Blmbg Barclays Corp: +4.5%) with US Treasuries following (+3.0%). Agency mortgages trailed (Blmbg Barclays MBS: +2.0%) as lower rates raised concerns around prepayment risk. TIPS (Blmbg Barclays TIPS: +2.9%) underperformed as inflation expectations fell; the 10-year breakeven spread was only 1.69% as of quarter-end versus 1.88% as of 3/31/2019. The high yield corporate bond market (Blmbg Barclays High Yield: +2.5%) underperformed investment grade but is up nearly 10% ytd. Leveraged loans (S&P LSTA: +1.7%) held their own in spite of negative press and falling rates. Municipal bonds (Blmbg Barclays Municipal Bond: +2.1%) underperformed U.S. Treasuries in Q2.







## **ASSET ALLOCATION AND PERFORMANCE**

## **Asset Allocation and Performance**

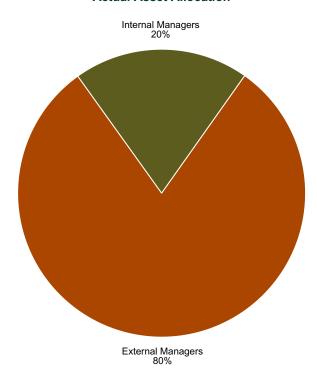
This section begins with an overview of the fund's asset allocation at the broad asset class level. This is followed by a top down performance attribution analysis which analyzes the fund's performance relative to the performance of the fund's policy target asset allocation. The fund's historical performance is then examined relative to funds with similar objectives. Performance of each asset class is then shown relative to the asset class performance of other funds. Finally, a summary is presented of the holdings of the fund's investment managers, and the returns of those managers over various recent periods.



## **Actual Asset Allocation** As of June 30, 2019

The chart below shows the Fund's asset allocation as of June 30, 2019.

#### **Actual Asset Allocation**



	\$000s	Weight
Asset Class	Áctual	Actŭal
Internal Managers	99,019	19.7%
External Managers	403,500	80.3%
Total	502.519	100.0%



## **Investment Manager Asset Allocation**

The table below contrasts the distribution of assets across the Fund's investment managers as of June 30, 2019, with the distribution as of March 31, 2019. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

## **Asset Distribution Across Investment Managers**

	June 30, 2	2019			March 31,	2019
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Internal Managers	\$99,019,436	19.70%	\$22,756,943	\$554,279	\$75,708,215	15.54%
Enterprise Development Fund	99,019,436	19.70%	22,756,943	554,279	75,708,215	15.54%
External Managers	\$403,499,800	80.30%	\$(20,000,000)	\$12,002,394	\$411,497,405	84.46%
Alaska Permanent Cap. Mgmt.	200,092,899	39.82%	(10,000,000)	5,815,747	204,277,152	41.93%
Barrow, Hanley, Mewhinney & Strauss	203,406,900	40.48%	(10,000,000)	6,186,647	207,220,253	42.53%
Total Fund	\$502.519.236	100.0%	\$2.756.943	\$12.556.673	\$487,205,620	100.0%



## **Investment Manager Returns**

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

## Returns for Periods Ended June 30, 2019

	Last	Fiscal	Last 3	Last 5	
	Quarter	Year	Years	Years	
Internal Managers	0.59%	2.23%	1.30%	0.82%	
Enterprise Development Fd.	0.59%	2.23%	1.30%	0.82%	
Citigroup 1 Yr. Treasury	0.92%	2.99%	1.44%	1.05%	
Treasury Bills	0.64%	2.31%	1.38%	0.87%	
External Managers	3.07%	7.67%	2.26%	3.00%	
Alaska Permanent Cap. Mgmt.	3.00%	7.39%	2.16%	2.91%	
Barrow, Hanley, Mewhinney & Strauss	3.14%	7.94%	2.36%	3.08%	
Blmbg Aggregate Index	3.08%	7.87%	2.31%	2.95%	
Total Fund	2.56%	6.64%	2.08%	2.41%	
Target*	2.70%	6.98%	2.25%	2.46%	

<sup>\*</sup> Current Quarter Target = 84.5% Blmbg Aggregate and 15.5% 3-month Treasury Bill.



## **Investment Manager Returns**

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	FY 2019	FY 2018	FY 2017	FY 2016	FY 2015
Internal Managers	2.23%	1.24%	0.43%	0.17%	0.03%
Enterprise Development Fd.	2.23%	1.24%	0.43%	0.17%	0.03%
Citigroup 1 Yr. Treasury	2.99%	0.98%	0.38%	0.63%	0.30%
Treasury Bills	2.31%	1.36%	0.49%	0.19%	0.02%
External Managers	7.67%	(0.50%)	(0.18%)	6.35%	1.93%
Alaska Permanent Cap. Mgmt.	7.39%	(0.64%)	(0.07%)	6.14%	2.01%
Barrow, Hanley, Mewhinney & Strauss	7.94%	(0.37%)	(0.28%)	6.56%	1.86%
Blmbg Aggregate Index	7.87%	(0.40%)	(0.31%)	6.00%	1.86%
Total Fund	6.64%	(0.25%)	(0.00%)	4.52%	1.34%
Target*	6.98%	(0.12%)	0.04%	4.34%	1.27%

<sup>\*</sup> Current Quarter Target = 84.5% Blmbg Aggregate and 15.5% 3-month Treasury Bill.



## **External Managers** Period Ended June 30, 2019

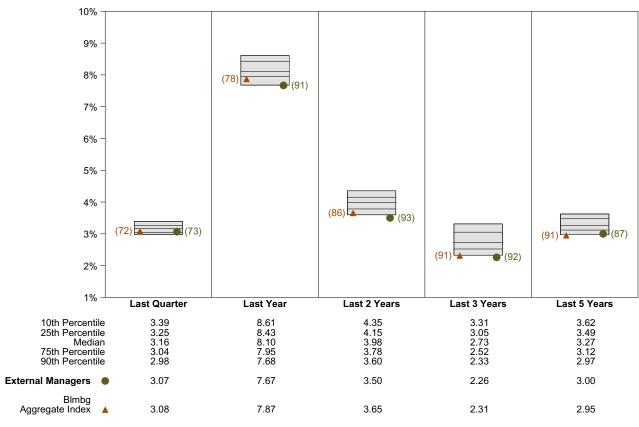
### **Quarterly Summary and Highlights**

- External Managers's portfolio posted a 3.07% return for the quarter placing it in the 73 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 91 percentile for the last year.
- External Managers's portfolio underperformed the Blmbg Aggregate Index by 0.01% for the quarter and underperformed the Blmbg Aggregate Index for the year by 0.20%.

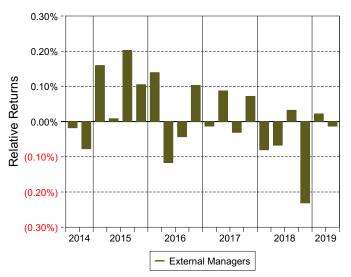
## **Quarterly Asset Growth**

Beginning Market Value	\$411,497,405
Net New Investment	\$-20,000,000
Investment Gains/(Losses)	\$12,002,394
Ending Market Value	\$403,499,800

## Performance vs Callan Core Bond Fixed Income (Gross)



## Relative Return vs Blmbg Aggregate Index



## Callan Core Bond Fixed Income (Gross) **Annualized Five Year Risk vs Return**



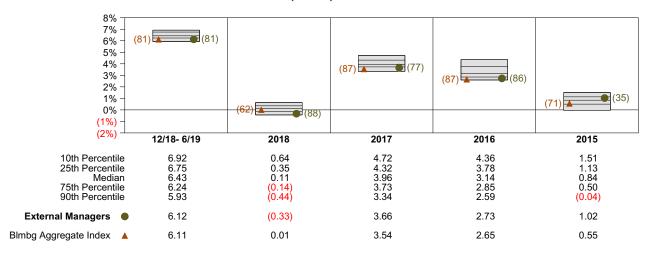


## **External Managers Return Analysis Summary**

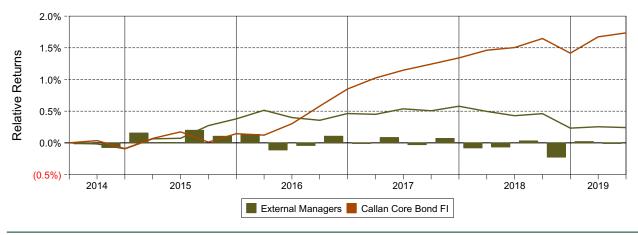
#### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

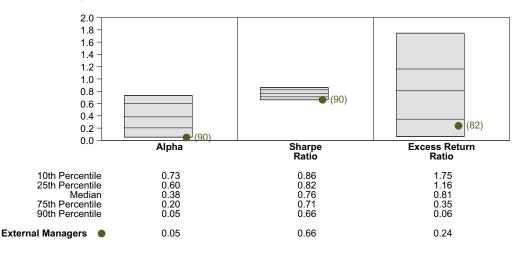
#### Performance vs Callan Core Bond Fixed Income (Gross)



## Cumulative and Quarterly Relative Return vs Blmbg Aggregate Index



Risk Adjusted Return Measures vs Blmbg Aggregate Index Rankings Against Callan Core Bond Fixed Income (Gross) Five Years Ended June 30, 2019



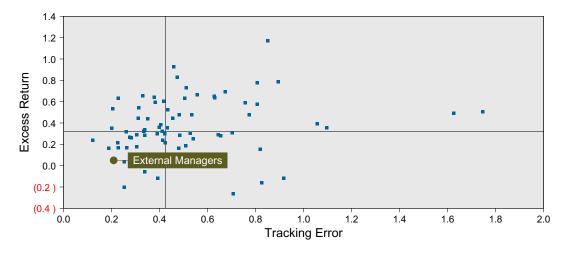


## **External Managers Risk Analysis Summary**

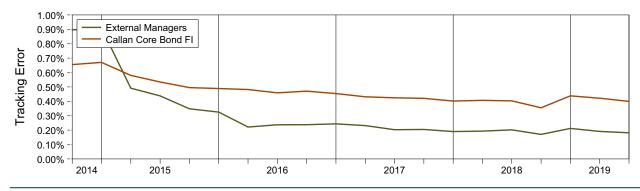
#### Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called the Excess Return Ration, between excess return and tracking error relative to a benchmark. The second chart displays the relationship, sometimes called the Information Ratio, between alpha (market-risk or "beta" adjusted return) and residual risk (non-market or "unsystematic" risk). The third chart shows tracking error patterns versus the benchmark over time. The last two charts show the ranking of the manager's risk statistics versus the peer group.

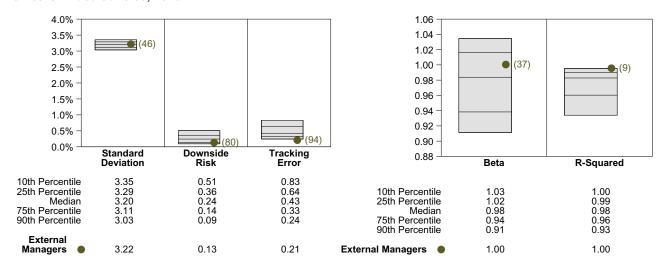
## Risk Analysis vs Callan Core Bond Fixed Income (Gross) Five Years Ended June 30, 2019



Rolling 12 Quarter Tracking Error vs Bloomberg Barclays Aggregate



Risk Statistics Rankings vs Bloomberg Barclays Aggregate Rankings Against Callan Core Bond Fixed Income (Gross) Five Years Ended June 30, 2019



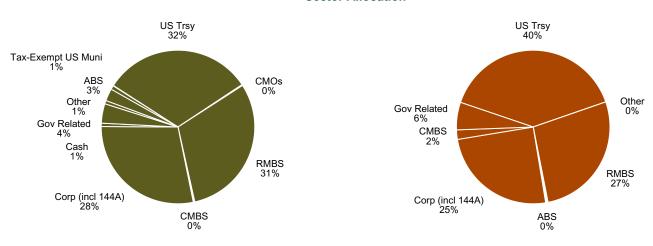


## **External Managers Portfolio Characteristics Summary** As of June 30, 2019

#### **Portfolio Structure Comparison**

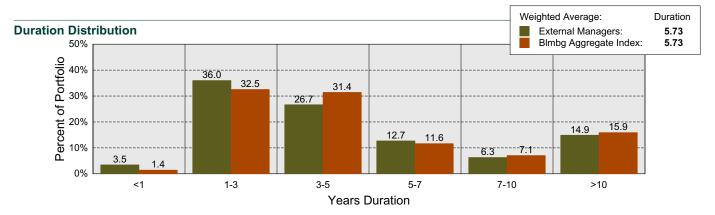
The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.

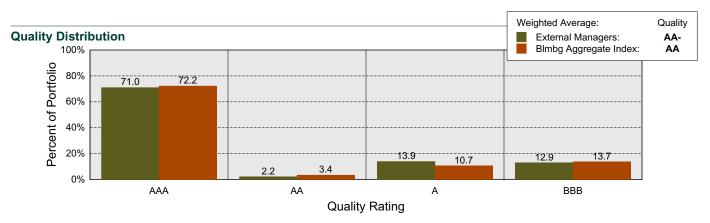
#### **Sector Allocation**



## **External Managers**

## **Blmbg Aggregate Index**







## Alaska Permanent Capital Management Period Ended June 30, 2019

### **Investment Philosophy**

Core Bond peer group includes managers that are typically benchmarked versus a domestic, investment grade fixed income index and generally will not make meaningful investments in securities outside of the benchmark.

## **Quarterly Summary and Highlights**

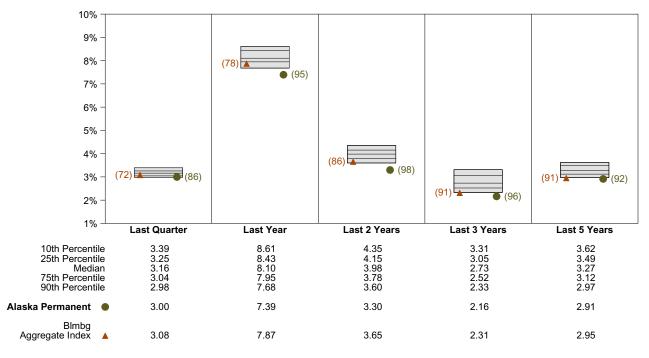
- Alaska Permanent's portfolio posted a 3.00% return for the quarter placing it in the 86 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 95 percentile for the last year.
- Alaska Permanent's portfolio underperformed the Blmbg Aggregate Index by 0.08% for the quarter and underperformed the Blmbg Aggregate Index for the year by 0.48%.

## **Quarterly Asset Growth**

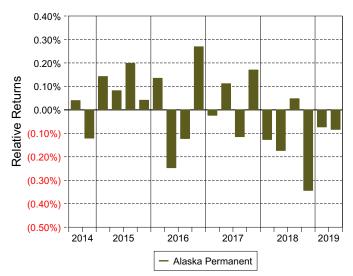
Beginning Market Value	\$204,277,152
Net New Investment	\$-10,000,000
Investment Gains/(Losses)	\$5,815,747

Ending Market Value \$200,092,899

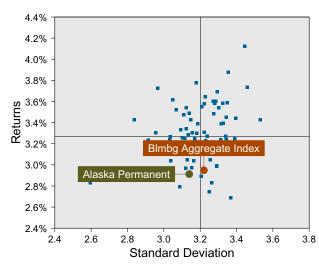
## Performance vs Callan Core Bond Fixed Income (Gross)



## Relative Return vs Blmbg Aggregate Index



## Callan Core Bond Fixed Income (Gross) Annualized Five Year Risk vs Return



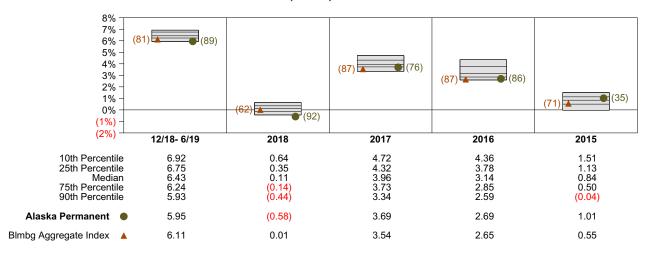


## **Alaska Permanent Capital Management Return Analysis Summary**

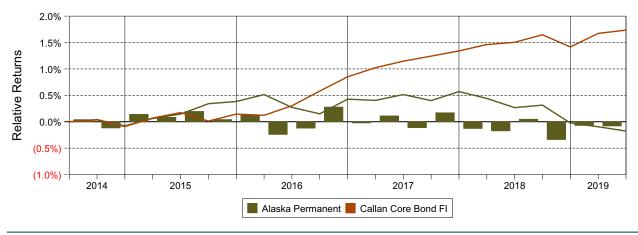
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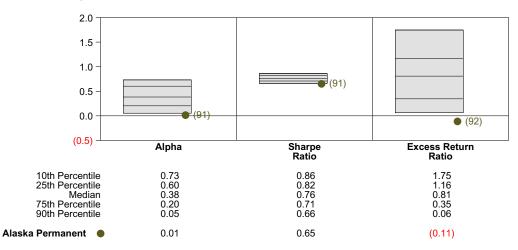
### Performance vs Callan Core Bond Fixed Income (Gross)



## Cumulative and Quarterly Relative Return vs Blmbg Aggregate Index



Risk Adjusted Return Measures vs Blmbg Aggregate Index Rankings Against Callan Core Bond Fixed Income (Gross) Five Years Ended June 30, 2019



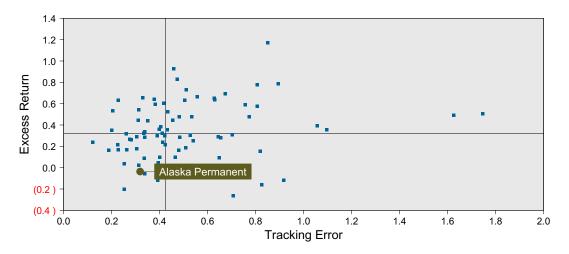


## **Alaska Permanent Capital Management Risk Analysis Summary**

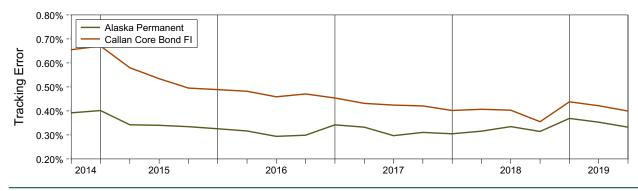
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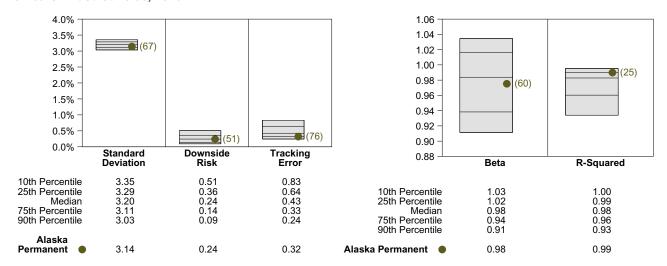
## Risk Analysis vs Callan Core Bond Fixed Income (Gross) Five Years Ended June 30, 2019



Rolling 12 Quarter Tracking Error vs Blmbg Aggregate Index



Risk Statistics Rankings vs Blmbg Aggregate Index Rankings Against Callan Core Bond Fixed Income (Gross) Five Years Ended June 30, 2019



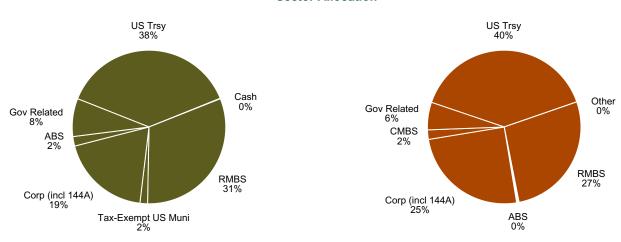


## **Alaska Permanent Capital Management Portfolio Characteristics Summary** As of June 30, 2019

#### **Portfolio Structure Comparison**

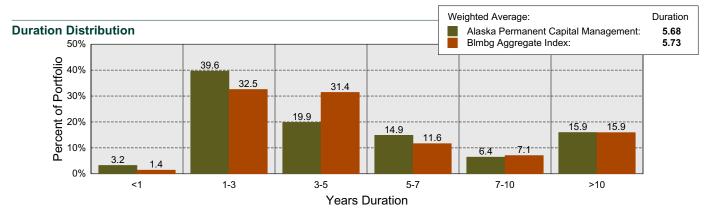
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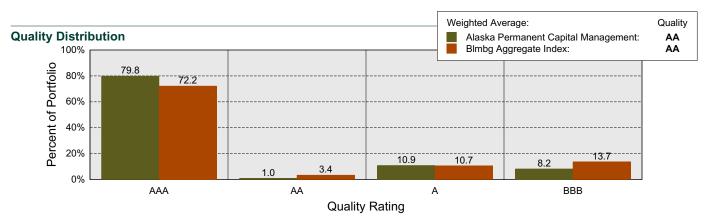
#### **Sector Allocation**



## **Alaska Permanent Capital Management**

## **Blmbg Aggregate Index**







## Barrow, Hanley, Mewhinney & Strauss Period Ended June 30, 2019

#### **Investment Philosophy**

Barrow, Hanley, Mewhinney & Strauss (BHMS) believes that excess returns can be achieved while taking below average risks. They feel they can beat the market, regardless of the direction of interest rates, by constructing portfolios that out-yield the market through a research-driven process of sector and security selection.

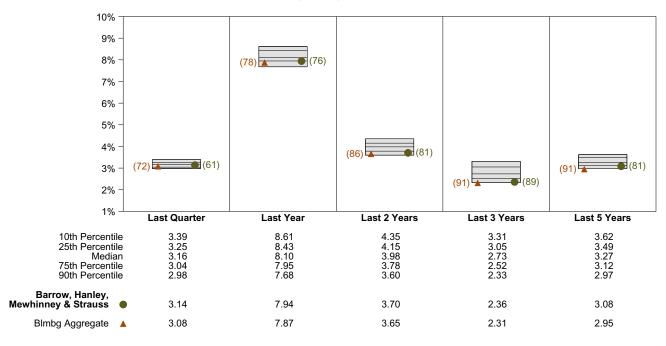
#### **Quarterly Summary and Highlights**

- Barrow, Hanley, Mewhinney & Strauss's portfolio posted a 3.14% return for the quarter placing it in the 61 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 76 percentile for the last year.
- Barrow, Hanley, Mewhinney & Strauss's portfolio outperformed the Blmbg Aggregate by 0.06% for the quarter and outperformed the Blmbg Aggregate for the year by 0.07%.

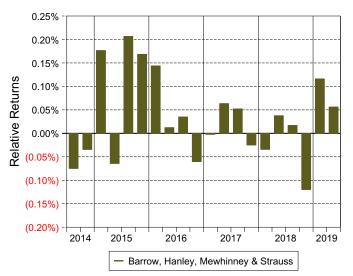
#### **Quarterly Asset Growth**

Beginning Market Value	\$207,220,253
Net New Investment	\$-10,000,000
Investment Gains/(Losses)	\$6,186,647
Ending Market Value	\$203.406.900

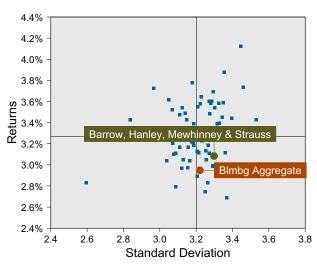
#### Performance vs Callan Core Bond Fixed Income (Gross)



## Relative Return vs Blmbg Aggregate



## Callan Core Bond Fixed Income (Gross) Annualized Five Year Risk vs Return



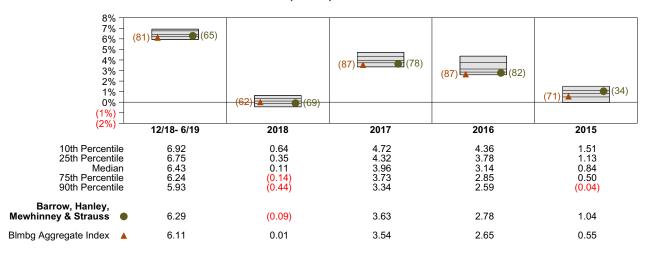


## Barrow, Hanley, Mewhinney & Strauss **Return Analysis Summary**

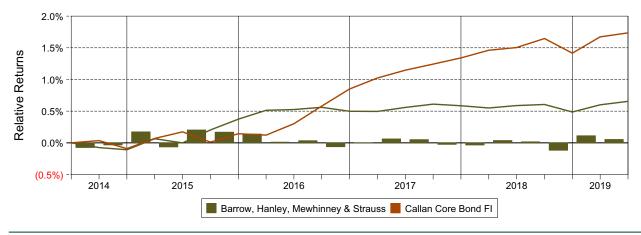
#### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

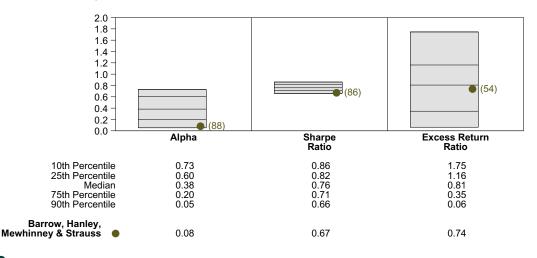
### Performance vs Callan Core Bond Fixed Income (Gross)



## Cumulative and Quarterly Relative Return vs Blmbg Aggregate Index



Risk Adjusted Return Measures vs Blmbg Aggregate Index Rankings Against Callan Core Bond Fixed Income (Gross) Five Years Ended June 30, 2019



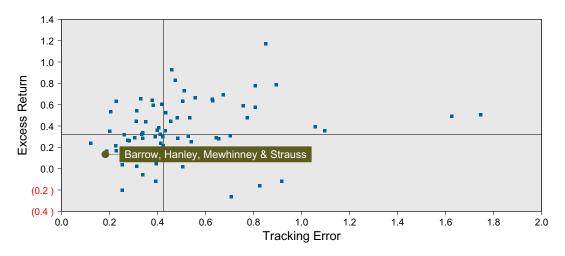


## Barrow, Hanley, Mewhinney & Strauss **Risk Analysis Summary**

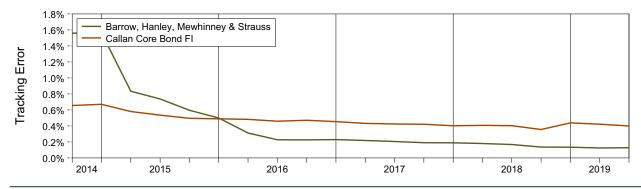
#### Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called the Excess Return Ration, between excess return and tracking error relative to a benchmark. The second chart displays the relationship, sometimes called the Information Ratio, between alpha (market-risk or "beta" adjusted return) and residual risk (non-market or "unsystematic" risk). The third chart shows tracking error patterns versus the benchmark over time. The last two charts show the ranking of the manager's risk statistics versus the peer group.

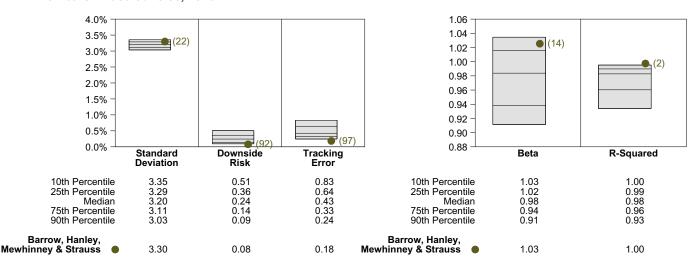
## Risk Analysis vs Callan Core Bond Fixed Income (Gross) Five Years Ended June 30, 2019



Rolling 12 Quarter Tracking Error vs Blmbg Aggregate Index



Risk Statistics Rankings vs Blmbg Aggregate Index Rankings Against Callan Core Bond Fixed Income (Gross) Five Years Ended June 30, 2019

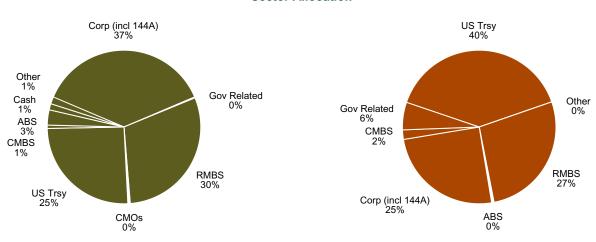


## Barrow, Hanley, Mewhinney & Strauss **Portfolio Characteristics Summary** As of June 30, 2019

#### **Portfolio Structure Comparison**

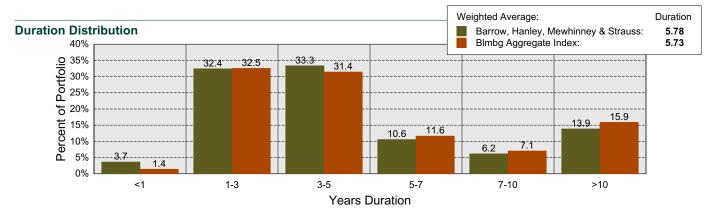
The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.

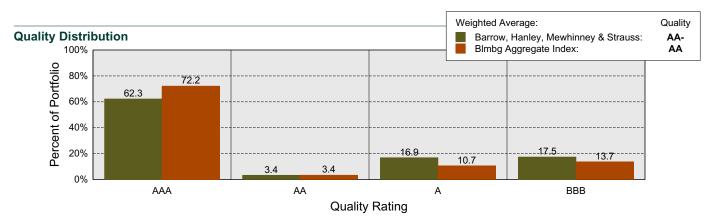
#### **Sector Allocation**



## Barrow, Hanley, Mewhinney & Strauss

## **Blmbg Aggregate Index**





## **Enterprise Development Fund** Period Ended June 30, 2019

## **Investment Philosophy**

The Money Market Funds Database consists of actively managed short term funds. These funds invest in low-risk, highly liquid, short-term financial instruments.

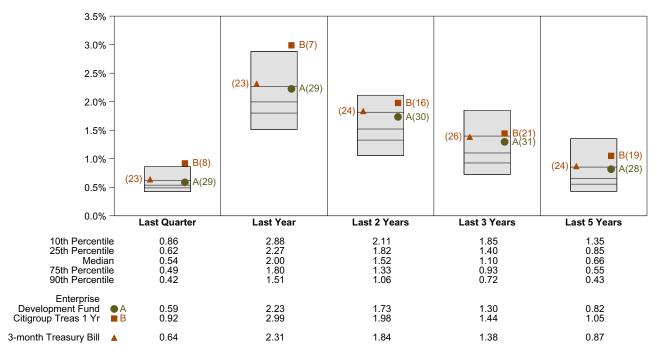
## **Quarterly Summary and Highlights**

- Enterprise Development Fund's portfolio posted a 0.59% return for the quarter placing it in the 29 percentile of the Callan Money Market Funds group for the quarter and in the 29 percentile for the last year.
- Enterprise Development Fund's portfolio underperformed the 3-month Treasury Bill by 0.05% for the quarter and underperformed the 3-month Treasury Bill for the year by 0.09%.

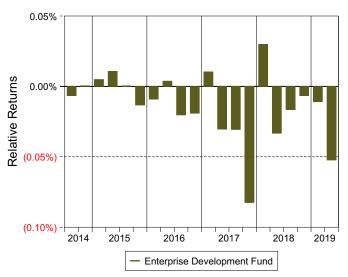
## **Quarterly Asset Growth**

Beginning Market Value	\$75,708,215
Net New Investment	\$22,756,943
Investment Gains/(Losses)	\$554,279
Ending Market Value	\$99,019,436

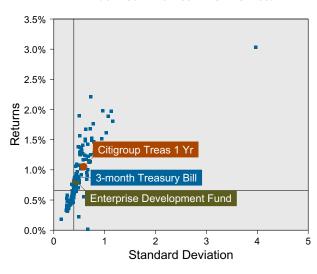
### Performance vs Callan Money Market Funds (Net)



## Relative Return vs 3-month Treasury Bill



## Callan Money Market Funds (Net) Annualized Five Year Risk vs Return



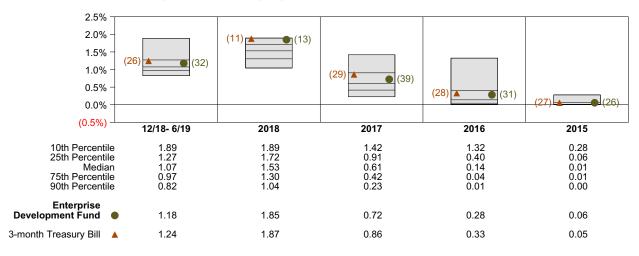


## **Enterprise Development Fund Return Analysis Summary**

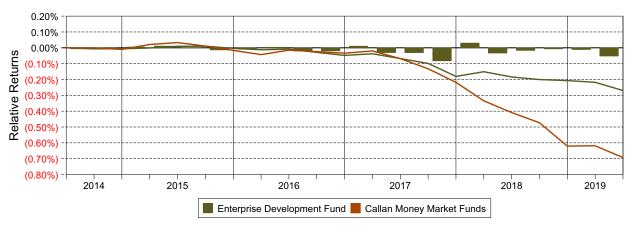
#### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

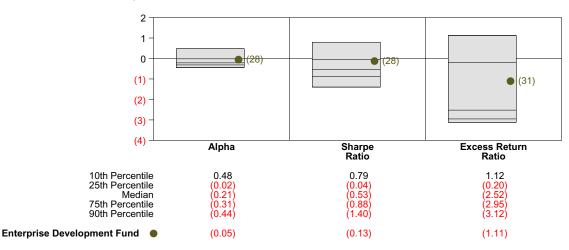
## Performance vs Callan Money Market Funds (Net)



## Cumulative and Quarterly Relative Return vs 3-month Treasury Bill



Risk Adjusted Return Measures vs 3-month Treasury Bill Rankings Against Callan Money Market Funds (Net) Five Years Ended June 30, 2019





#### **Fixed Income Market Indicators**

The market indicators included in this report are regarded as measures of equity or fixed income performance results. The returns shown reflect both income and capital appreciation.

**90-Day U.S. Treasury Bills** provide a measure of riskless return. The rate of return is the average interest rate available on the beginning of each month for a Treasury Bill maturing in ninety days.

**Bloomberg Barclays Aggregate Bond Index** is a combination of the Mortgage Backed Securities Index and the intermediate and long-term components of the Government/Credit Bond Index.

**Treasury 1 Year (On-The-Run)** is the total return for the current one-year Treasury that has been in existence for the entire month.



### **Callan Databases**

In order to provide comparative investment results for use in evaluating a fund's performance, Callan gathers rate of return data from investment managers. These data are then grouped by type of assets managed and by the type of investment manager. Except for mutual funds, the results are for tax-exempt fund assets. The databases, excluding mutual funds, represent investment managers who handle over 80% of all tax-exempt fund assets.

#### **Fixed Income Funds**

Fixed Income funds concentrate their investments in bonds, preferred stocks, and money market securities. The funds included maintain well-diversified portfolios.

Cash Management Funds - The Cash Management Funds Database consists of actively managed short-term funds, money market mutual funds, and short term bank funds. These funds invest in low-risk, highly liquid, short-term financial instruments.

**Core Bond** - Managers who construct portfolios to approximate the investment results of the Bloomberg Barclays Capital Government/Credit Bond Index or the Bloomberg Barclays Capital Aggregate Bond Index with a modest amount of variability in duration around the index. The objective is to achieve value added from sector and/or issue selection.



### **Risk/Reward Statistics**

The risk statistics used in this report examine performance characteristics of a manager or a portfolio relative to a benchmark (market indicator) which assumes to represent overall movements in the asset class being considered. The main unit of analysis is the excess return, which is the portfolio return minus the return on a risk free asset (3 month T-Bill).

Alpha measures a portfolio's return in excess of the market return adjusted for risk. It is a measure of the manager's contribution to performance with reference to security selection. A positive alpha indicates that a portfolio was positively rewarded for the residual risk which was taken for that level of market exposure.

**Beta** measures the sensitivity of rates of portfolio returns to movements in the market index. A portfolio's beta measures the expected change in return per 1% change in the return on the market. If a beta of a portfolio is 1.5, a 1 percent increase in the return on the market will result, on average, in a 1.5 percent increase in the return on the portfolio. The converse would also be true.

**Downside Risk** stems from the desire to differentiate between "good risk" (upside volatility) and "bad risk" (downside volatility). Whereas standard deviation punishes both upside and downside volatility, downside risk measures only the standard deviation of returns below the target. Returns above the target are assigned a deviation of zero. Both the frequency and magnitude of underperformance affect the amount of downside risk.

**Excess Return Ratio** is a measure of risk adjusted relative return. This ratio captures the amount of active management performance (value added relative to an index) per unit of active management risk (tracking error against the index.) It is calculated by dividing the manager's annualized cumulative excess return relative to the index by the standard deviation of the individual quarterly excess returns. The Excess Return Ratio can be interpreted as the manager's active risk/reward tradeoff for diverging from the index when the index is mandated to be the "riskless" market position.

**Information Ratio** measures the manager's market risk-adjusted excess return per unit of residual risk relative to a benchmark. It is computed by dividing alpha by the residual risk over a given time period. Assuming all other factors being equal, managers with lower residual risk achieve higher values in the information ratio. Managers with higher information ratios will add value relative to the benchmark more reliably and consistently.

**R-Squared** indicates the extent to which the variability of the portfolio returns are explained by market action. It can also be thought of as measuring the diversification relative to the appropriate benchmark. An r-squared value of .75 indicates that 75% of the fluctuation in a portfolio return is explained by market action. An r-squared of 1.0 indicates that a portfolio's returns are entirely related to the market and it is not influenced by other factors. An r-squared of zero indicates that no relationship exists between the portfolio's return and the market.

Relative Standard Deviation is a simple measure of a manager's risk (volatility) relative to a benchmark. It is calculated by dividing the manager's standard deviation of returns by the benchmark's standard deviation of returns. A relative standard deviation of 1.20, for example, means the manager has exhibited 20% more risk than the benchmark over that time period. A ratio of .80 would imply 20% less risk. This ratio is especially useful when analyzing the risk of investment grade fixed-income products where actual historical durations are not available. By using this relative risk measure over rolling time periods one can illustrate the "implied" historical duration patterns of the portfolio versus the benchmark.

Residual Portfolio Risk is the unsystematic risk of a fund, the portion of the total risk unique to the fund (manager) itself and not related to the overall market. This reflects the "bets" which the manager places in that particular asset market. These bets may reflect emphasis in particular sectors, maturities (for bonds), or other issue specific factors which the manager considers a good investment opportunity. Diversification of the portfolio will reduce or eliminate the residual risk of that portfolio.



### **Risk/Reward Statistics**

Rising Declining Periods refer to the sub-asset class cycles vis-a-vis the broader asset class. This is determined by evaluating the cumulative relative sub-asset class index performance to that of the broader asset class index. For example, to determine the Growth Style cycle, the S&P 500 Growth Index (sub-asset class) performance is compared to that of the S&P 500 Index (broader asset class).

**Sharpe Ratio** is a commonly used measure of risk-adjusted return. It is calculated by subtracting the "risk-free" return (usually 3 Month Treasury Bill) from the portfolio return and dividing the resulting "excess return" by the portfolio's risk level (standard deviation). The result is a measure of return gained per unit of risk taken.

**Sortino Ratio** is a downside risk-adjusted measure of value-added. It measures excess return over a benchmark divided by downside risk. The natural appeal is that it identifies value-added per unit of truly bad risk. The danger of interpretation, however, lies in these two areas: (1) the statistical significance of the denominator, and (2) its reliance on the persistence of skewness in return distributions.

**Standard Deviation** is a statistical measure of portfolio risk. It reflects the average deviation of the observations from their sample mean. Standard deviation is used as an estimate of risk since it measures how wide the range of returns typically is. The wider the typical range of returns, the higher the standard deviation of returns, and the higher the portfolio risk. If returns are normally distributed (ie. has a bell shaped curve distribution) then approximately 2/3 of the returns would occur within plus or minus one standard deviation from the sample mean.

**Total Portfolio Risk** is a measure of the volatility of the quarterly excess returns of an asset. Total risk is composed of two measures of risk: market (non-diversifiable or systematic) risk and residual (diversifiable or unsystematic) risk. The purpose of portfolio diversification is to reduce the residual risk of the portfolio.

**Tracking Error** is a statistical measure of a portfolio's risk relative to an index. It reflects the standard deviation of a portfolio's individual quarterly or monthly returns from the index's returns. Typically, the lower the Tracking Error, the more "index-like" the portfolio.

**Treynor Ratio** represents the portfolio's average excess return over a specified period divided by the beta relative to its benchmark over that same period. This measure reflects the reward over the risk-free rate relative to the systematic risk assumed.

Note: Alpha, Total Risk, and Residual Risk are annualized.



## **Fixed Income Portfolio Characteristics**

All Portfolio Characteristics are derived by first calculating the characteristics for each security, and then calculating the market value weighted average of these values for the portfolio.

**Allocation by Sector** - Sector allocation is one of the tools which managers often use to add value without impacting the duration of the portfolio. The sector weights exhibit can be used to contrast a portfolio's weights with those of the index to identify any significant sector bets.

**Average Coupon** - The average coupon is the market value weighted average coupon of all securities in the portfolio. The total portfolio coupon payments per year are divided by the total portfolio par value.

**Average Moody's Rating for Total Portfolio** - A measure of the credit quality as determined by the individual security ratings. The ratings for each security, from Moody's Investor Service, are compiled into a composite rating for the whole portfolio. Quality symbols range from Aaa+ (highest investment quality - lowest credit risk) to C (lowest investment quality - highest credit risk).

Average Option Adjusted (Effective) Convexity - Convexity is a measure of the portfolio's exposure to interest rate risk. It is a measure of how much the duration of the portfolio will change given a change in interest rates. Generally, securities with negative convexities are considered to be risky in that changes in interest rates will result in disadvantageous changes in duration. When a security's duration changes it indicates that the stream of expected future cash-flows has changed, generally having a significant impact on the value of the security. The option adjusted convexity for each security in the portfolio is calculated using models developed by Lehman Brothers and Salomon Brothers which determine the expected stream of cash-flows for the security based on various interest rate scenarios. Expected cash-flows take into account any put or call options embedded in the security, any expected sinking-fund paydowns or any expected mortgage principal prepayments.

**Average Option Adjusted (Effective) Duration** - Duration is one measure of the portfolio's exposure to interest rate risk. Generally, the higher a portfolio's duration, the more that its value will change in response to interest rate changes. The option adjusted duration for each security in the portfolio is calculated using models developed by Lehman Brothers and Salomon Brothers which determine the expected stream of cash-flows for the security based on various interest rate scenarios. Expected cash-flows take into account any put or call options embedded in the security, any expected sinking-fund paydowns or any expected mortgage principal prepayments.

**Average Price** - The average price is equal to the portfolio market value divided by the number of securities in the portfolio. Portfolios with an average price above par will tend to generate more current income than those with an average price below par.

**Average Years to Expected Maturity** - This is a measure of the market-value-weighted average of the years to expected maturity across all of the securities in the portfolio. Expected years to maturity takes into account any put or call options embedded in the security, any expected sinking-fund paydowns or any expected mortgage principal prepayments.

**Average Years to Stated Maturity** - The average years to stated maturity is the market value weighted average time to stated maturity for all securities in the portfolio. This measure does not take into account imbedded options, sinking fund paydowns, or prepayments.

**Current Yield** - The current yield is the current annual income generated by the total portfolio market value. It is equal to the total portfolio coupon payments per year divided by the current total portfolio market value.



#### **Fixed Income Portfolio Characteristics**

**Duration Dispersion** - Duration dispersion is the market-value weighted standard deviation of the portfolio's individual security durations around the total portfolio duration. The higher the dispersion, the more variable the security durations relative to the total portfolio duration ("barbellness"), and the smaller the dispersion, the more concentrated the holdings' durations around the overall portfolio's ("bulletness"). The purpose of this statistic is to gauge the "bulletness" or "barbellness" of a portfolio relative to its total duration and to that of its benchmark index.

**Effective Yield** - The effective yield is the actual total annualized return that would be realized if all securities in the portfolio were held to their expected maturities. Effective yield is calculated as the internal rate of return, using the current market value and all expected future interest and principal cash flows. This measure incorporates sinking fund paydowns, expected mortgage principal prepayments, and the exercise of any "in-the-money" imbedded put or call options.

**Weighted Average Life** - The weighted average life of a security is the weighted average time to payment of all remaining principal. It is calculated by multiplying each expected future principal payment amount by the time left to the payment. This amount is then divided by the total amount of principal remaining. Weighted average life is commonly used as a measure of the investment life for pass-through security types for comparison to non-pass-through securities.





2nd Quarter 2019

## **Research and Educational Programs**

The Callan Institute provides research to update clients on the latest industry trends and carefully structured educational programs to enhance the knowledge of industry professionals. Visit www.callan.com/library to see all of our publications, and www.callan.com/blog to view our blog "Perspectives." For more information contact Barb Gerraty at 415-274-3093 / institute@callan.com.

## **New Research from Callan's Experts**

The OCIO Model: How Do We Measure Success? | This paper outlines the key issues for evaluating the success of outsourced chief investment officer (OCIO) services.

Perspectives on Investing: The Evolution of Strategic Allocations | In this video, Callan experts discuss the key challenges of evaluating non-U.S. equity investments.

Opportunities & Challenges: Investing in Private Equity

Partnerships | In this video, Callan experts discuss investing directly in private equity partnerships.

Building a Pool of Transition Managers: Both an Art and a Science | Transition management is the restructuring of institutional portfolios from single or multiple investment managers/ asset classes to a new allocation over a short-term horizon. This paper offers guidance on building a pool of transition managers.

Callan's Periodic Table Explained | The popular Callan Periodic
Table of Investment Returns turned 20 this



Table of Investment Returns turned 20 this year. This animated feature discusses the benefits and some of the history of the table.

The Cobbler's Shoes: How Asset Managers Run Their Own 401(k) Plans | Can investment manager-sponsored DC plans provide insights on plan design and implementation? To help answer this question, Callan examined the 401(k) plans of investment



managers. The industry scored high on retirement savings metrics. But in contrast to the industry consensus, asset managers generally embraced complexity over simplicity in their investment designs.

#### How to Distinguish Between Growth Equity and Late-Stage VC



Both growth equity and latestage venture capital are growth-oriented but differ sig-

nificantly in the types of companies they invest in, the structure of their investments, the way in which they create value, and the tradeoffs between risk and return.

Nurturing Strong Cultures at Professional Firms | In this paper, Callan Executive Chairman Ron Peyton offers advice for building effective and transparent corporate cultures.

<u>Opening Doors of Opportunity</u> | This paper reviews the types of co-investment opportunities offered by hedge funds and funds-offunds (FOFs).

## **Quarterly Periodicals**

<u>Private Equity Trends</u> | A newsletter on private equity activity, covering both the fundraising cycle and performance over time.

Market Pulse Flipbook | A market reference guide covering trends in the U.S. economy, developments for fund sponsors, and the latest data for U.S. and non-U.S. equities and fixed income, alternatives, and defined contribution plans.

<u>Active vs. Passive Charts</u> | This series of charts compares active managers alongside relevant benchmarks over the long term.

<u>Capital Market Review</u> | A newsletter providing analysis and a broad overview of the economy and public and private market activity each quarter across a wide range of asset classes.

#### **Events**

Miss out on a Callan conference or workshop? Event summaries and speakers' presentations are available on our website: www.callan.com/library/

Please mark your calendar and look forward to upcoming invitations.

#### **October Regional Workshops**

October 22, 2019 – Denver October 24, 2019 – Chicago

### 2020 National Conference

January 27-29, 2020 - San Francisco

Please also keep your eye out for upcoming Webinars in 2019! We will be sending invitations for these and also will have registration links on our website at www.callan.com/events.

For more information about events, please contact Barb Gerraty: 415-274-3093 / gerraty@callan.com

# The Center for Investment Training Educational Sessions

The Center for Investment Training, better known as the "Callan College," provides a foundation of knowledge for industry professionals who are involved in the investment decision-making process. It was founded in 1994 to provide clients and non-clients alike with basic- to intermediate-level instruction. Our next sessions are:

#### Introduction to Investments

San Francisco, July 23-24, 2019 Atlanta, October 8-9, 2019 Chicago, October 22-23, 2019

This program familiarizes fund sponsor trustees, staff, and asset management advisers with basic investment theory, terminology, and practices. It lasts one-and-a-half days and is designed for individuals who have less than two years of experience with asset-management oversight and/or support responsibilities. Tuition for the Introductory "Callan College" session is \$2,350 per person. Tuition includes instruction, all materials, breakfast and lunch on each day, and dinner on the first evening with the instructors.

#### "Callan College" on Alternative Investments

Chicago, October 29-30, 2019

The "Callan College" on Alternative Investments will cover: private equity, private credit, hedge funds, real estate, and real assets. Tuition for the "Callan College" on Alternative Investments session is \$2,500 per person. Tuition includes instruction, all materials, and breakfast and lunch on each day.

Learn more at www.callan.com/events/callan-college-intro

525

**Education: By the Numbers** 

Attendees (on average) of the Institute's annual National Conference

**50+** 

Unique pieces of research the Institute generates each year

3,700

Total attendees of the "Callan College" since 1994

1980

Year the Callan Institute was founded



"Research is the foundation of all we do at Callan, and sharing our best thinking with the investment community is our way of helping to foster dialogue to raise the bar across the industry."

Greg Allen, CEO and Chief Research Officer







## **List of Callan's Investment Manager Clients**

Confidential - For Callan Client Use Only

Callan takes its fiduciary and disclosure responsibilities to clients very seriously. We recognize that there are numerous potential conflicts of interest encountered in the investment consulting industry and that it is our responsibility to manage those conflicts effectively and in the best interest of our clients. At Callan, we employ a robust process to identify, manage, monitor and disclose potential conflicts on an on-going basis.

The list below is an important component of our conflicts management and disclosure process. It identifies those investment managers that pay Callan fees for educational, consulting, software, database or reporting products and services. We update the list quarterly because we believe that our fund sponsor clients should know the investment managers that do business with Callan, particularly those investment manager clients that the fund sponsor clients may be using or considering using. Please note that if an investment manager receives a product or service on a complimentary basis (e.g. attending and educational event), they are not included in the list below. Callan is committed to ensuring that we do not consider an investment manager's business relationship with Callan, or lack thereof, in performing evaluations for or making suggestions or recommendations to its other clients. Please refer to Callan's ADV Part 2A for a more detailed description of the services and products that Callan makes available to investment manager clients through our Institutional Consulting Group, Independent Adviser Group and Fund Sponsor Consulting Group. Due to the complex corporate and organizational ownership structures of many investment management firms, parent and affiliate firm relationships are not indicated on our

Fund sponsor clients may request a copy of the most currently available list at any time. Fund sponsor clients may also request specific information regarding the fees paid to Callan by particular fund manager clients. Per company policy, information requests regarding fees are handled exclusively by Callan's Compliance Department.

Manager Name
Aberdeen Standard Investments
Acadian Asset Management LLC
AEGON USA Investment Management
Alcentra
AllianceBernstein
Allianz Global Investors
Allianz Life Insurance Company of North America
American Century Investments
Amundi Pioneer Asset Management
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Atlanta Capital Management Co., LLC
Aviva Investors Americas
AXA Investment Managers
Baillie Gifford International, LLC
Baird Advisors
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
BlackRock
BMO Global Asset Management
BNP Paribas Asset Management
BNY Mellon Asset Management
Boston Partners
Brandes Investment Partners, L.P.
Brandywine Global Investment Management, LLC
BrightSphere Investment Group
Brown Brothers Harriman & Company
Cambiar Investors, LLC
Capital Group
Carillon Tower Advisers
CastleArk Management, LLC
Causeway Capital Management
Chartwell Investment Partners

Manager Name
ClearBridge Investments, LLC
Cohen & Steers Capital Management, Inc.
Columbia Threadneedle Investments
Columbus Circle Investors
Credit Suisse Asset Management
DePrince, Race & Zollo, Inc.
Diamond Hill Capital Management, Inc.
Dimensional Fund Advisors LP
Doubleline
Duff & Phelps Investment Management Co.
DWS
EARNEST Partners, LLC
Eaton Vance Management
Epoch Investment Partners, Inc.
Fayez Sarofim & Company
Federated Investors
Fidelity Institutional Asset Management
Fiera Capital Corporation
Financial Engines
First Hawaiian Bank Wealth Management Division
First State Investments
Fisher Investments
Franklin Templeton
Fred Alger Management, Inc.
GAM (USA) Inc.
Glenmeade Investment Management, LP
GlobeFlex Capital, L.P.
Goldman Sachs
Green Square Capital LLC
Guggenheim Investments
GW&K Investment Management
Harbor Capital Group Trust
Hartford Investment Management Co.
Heitman LLC

Manager Name Hotchkis & Wiley Capital Management, LLC **HSBC Global Asset Management** Income Research + Management, Inc. Insight Investment Management Limited Intech Investment Management, LLC Intercontinental Real Estate Corporation Invesco Investec Asset Management Ivy Investments J.P. Morgan Janus Jennison Associates LLC Jobs Peak Advisors KeyCorp Lazard Asset Management Legal & General Investment Management America Lincoln National Corporation Logan Circle Partners, L.P. Longview Partners Loomis, Sayles & Company, L.P. Lord Abbett & Company Los Angeles Capital Management LSV Asset Management MacKay Shields LLC Macquarie Investment Management (MIM) Manulife Asset Management Marathon Asset Management, L.P. McKinley Capital Management, LLC MFS Investment Management MidFirst Bank Mondrian Investment Partners Limited Montag & Caldwell, LLC Morgan Stanley Investment Management Mountain Lake Investment Management LLC Mountain Pacific Advisors, LLC MUFG Union Bank, N.A. **Natixis Investment Managers** Neuberger Berman **Newton Investment Management** Nikko Asset Management Co., Ltd. Northern Trust Asset Management Nuveen

Manager Name Pacific Investment Management Company Pathway Capital Management Peregrine Capital Management, Inc. Perkins Investment Management **PGIM Fixed Income** PineBridge Investments PNC Capital Advisors, LLC Principal Global Investors Putnam Investments, LLC QMA LLC **RBC Global Asset Management** Regions Financial Corporation Robeco Institutional Asset Management, US Inc. Rockefeller Capital Management Rothschild & Co. Asset Management US Russell Investments Schroder Investment Management North America Inc. Smith Graham & Co. Investment Advisors, L.P. Smith Group Asset Management South Texas Money Management, Ltd. State Street Global Advisors Stone Harbor Investment Partners, L.P. Sun Life Investment Management T. Rowe Price Associates, Inc. The Boston Company Asset Management The TCW Group, Inc. Thompson, Siegel & Walmsley LLC Thornburg Investment Management, Inc. Tri-Star Trust Bank **UBS Asset Management** VanEck Versus Capital Group Victory Capital Management Inc. Virtus Investment Partners, Inc. Vontobel Asset Management, Inc. Voya WCM Investment Management WEDGE Capital Management Wellington Management Company, LLP Wells Fargo Asset Management Western Asset Management Company LLC

Westfield Capital Management Company, LP

William Blair & Company LLC

OFI Global Asset Management

P/E Investments

Osterweis Capital Management, LLC