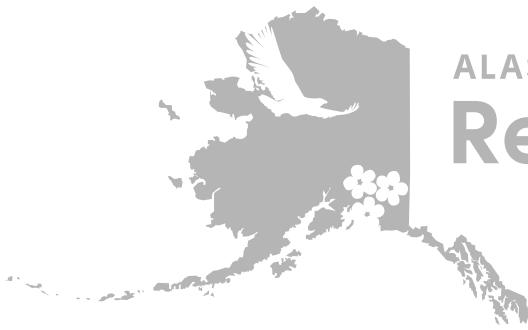




INVESTMENT SECTION



ALASKA DIVISION OF
**Retirement
and Benefits**



Callan Associates Inc.
1900 16th Street
Suite 1175
Denver, CO 80202



Main 303.861.1900
Fax 303.832.8230

www.callan.com

September 29, 2022

Alaska Retirement Management Board
State of Alaska, Department of Revenue
Treasury Division
333 Willoughby Avenue, 11th Floor
Juneau, Alaska 99801

Dear Board Members:

This letter reviews the investment performance of assets under the purview of the Alaska Retirement Management Board (ARMB) for the fiscal year ended June 30, 2022.

Callan LLC (Callan) calculates time-weighted performance statistics based primarily on underlying custodial data provided by the Board's custodian, State Street Bank and Trust Company. Additional manager-level data is obtained directly from the Department of Revenue. The performance calculations were made using a time-weighted return methodology based upon market values reported by these sources.

Callan serves as ARMB's independent general investment consultant and evaluates ARMB's performance in relation to market benchmarks, appropriate manager peer groups and other public pension systems. The performance calculations are made using a methodology broadly similar to the Global Investment Performance Standards.

ARMB purposely seeks to invest assets prudently, expertly, and according to governing law and industry practices. The objective of this approach is to responsibly invest Plan assets that, in combination with contributions, will be sufficient to pay promised benefits to members and beneficiaries. In pursuit of this objective, ARMB periodically evaluates liabilities, expected contributions and potential earnings. This analysis considers a wide range of potentially viable investment strategies. With thoughtful consideration of multiple factors, ARMB selects a strategic investment policy that balances long-term growth potential and acceptable risk. A policy benchmark is constructed that mirrors ARMB's strategic decision regarding asset allocation policy. The custom policy benchmark comprises equity, fixed income, real estate and other market indices weighted in proportions corresponding to ARMB's investment policy.

2022 Fiscal Year Market Overview

There was no shortage of challenges facing the world as we closed out the 2022 fiscal year: the relentless and tragic war in Ukraine, persistent and widespread inflation, startling rate hikes to the Fed Funds rate, a stubborn virus, and escalating concerns over a slowing global economy. Global bond and stock markets sank, with the S&P 500 Index officially in a bear market. Headline CPI was 8.6% year-over-year (YOY), the highest in four decades. Food and energy prices have risen sharply, and supply chain issues have not been resolved, adding further pressure to prices in some sectors. Central bank rate hikes are expected around the globe (with China

Investment Section

and Japan being exceptions) as inflation is widespread. The economic effects of the Russian invasion of Ukraine have been especially painful in Europe, which has relied heavily on Russia for its energy needs.

In contrast to this gloomy news, the labor market remained strong, with 10.7 million job openings on the last business day of June, according to the U.S. Bureau of Labor Statistics. Job gains have averaged more than 400,000 per month in 2022, and unemployment remains low (3.5% as of June). Housing is another bright spot, unless you are a first-time buyer. Home prices remain sky-high; the S&P CoreLogic Case-Shiller U.S. National Home Price Index jumped 20.5% YOY as of May 2022 while housing inventory remained low.

U.S. equity markets finished the fiscal year 2022 in the red for the first time in five years. The Russell 3000 Index, a measure of broad U.S. equity, was up 9.17% at the end of the 2021 calendar year before falling 5.28% in 1Q and 16.70% in 2Q on concerns over rising rates and a slowing economy; the Index is down 13.87% for the one-year period ended June 30, 2022. Overseas markets were also broadly negative for the fiscal year hurt by elevated energy prices, COVID lockdowns in China, and U.S. dollar strength. The MSCI ACWI ex-U.S. IMI (Net) Index, a broad benchmark reflecting developed and emerging markets, but excluding U.S. equities, declined 14.28% for the quarter and 19.86% for the fiscal year. The MSCI All Country World Index (Net), a broad measure of the total global equity market (including the U.S.), fell 15.66% in for the quarter and 15.75% for the fiscal year.

As expected, the Fed raised rates at its March and May meetings by 25 bps and 50 bps, respectively. May's CPI print wreaked havoc on the markets and spurred the Fed to raise rates by 75 bps in June, the largest hike since 1994, to a 1.50% - 1.75% target with another 75-bps hike expected in July. The Bloomberg U.S. Aggregate Bond Index, a widely used gauge of the investment grade domestic U.S. bond market, had its worst two consecutive quarters in history dropping 5.93% in 1Q and 4.69% in 2Q bringing its fiscal year loss to 10.29%. The 10-year U.S. Treasury hit an intra-quarter high of 3.49% in June, the highest since 2011, before closing the fiscal year at 2.98%.

Commodities were a rare bright spot given their inflation-protection properties as well as war-induced supply concerns. Not surprisingly, Energy (40%) was the best-performing sector given a 33% spike in WTI crude oil prices, followed by utilities (14%).

Private real estate, as measured by the NCREIF Property Index, was positive for the eleventh fiscal year in a row. In fiscal year 2022, the NCREIF Property Index returned 21.45% led by industrial and aided by apartment property. Publicly traded real estate, as measured by the FTSE NAREIT All Equity Index, meaningfully lagged the private markets, returning -6.27% for the fiscal year 2022.

ARMB's actual asset groupings delivered the following one-year returns through June 30, 2022¹:

| | |
|------------------------|---------|
| Domestic Stocks: | -11.74% |
| Global ex-U.S. Stocks: | -20.96% |
| Opportunistic: | -10.58% |
| Fixed Income: | -6.96% |
| Real Assets: | 14.29% |
| Private Equity: | 26.25% |

For the fiscal year ended June 30, 2022, the Public Employees Retirement System (PERS) had a time-weighted total return of -4.08%. The Teachers Retirement System (TRS) had a time-weighted total return of -4.10%. Both systems' gross return exceeded their strategic policy target return of -7.86% and the median return for Callan's Public Fund Sponsor database of -9.35%.

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Over longer trailing periods, PERS and TRS have outperformed their target index returns. The 5-year annualized return for both PERS and TRS was 8.19% compared to the benchmark return of 6.67% for both Plans. The ten-year annualized return was 8.72% for PERS and 8.73% for TRS. Both were above the 10-year target return of 7.71%. Over 30.75 years – the longest period of available data – PERS and TRS achieved annualized total returns of 7.80% and 7.84%, respectively. Both exceeded the corresponding policy benchmark return of 7.44%.

The 2022 fiscal-year returns of the PERS and TRS pension (“DB”) and health care (“HC”) programs are listed in the table below.

| | PERS DB | PERS HC | TRS DB | TRS HC |
|---------|---------|---------|--------|--------|
| FY 2022 | -4.08% | -4.08% | -4.10% | -4.08% |

The pension and health care systems are well diversified and currently have asset allocation policies that, in our opinion, are consistent with achieving a long-term “real” (above inflation) return of 4.5%.

In summary, fiscal 2022 was a year in which ARMB’s Total Fund returns were positive, as were those of most broad asset class returns. PERS and TRS produced higher returns than the average public fund, both ranking in the 10th percentile within the Public Fund Sponsor peer group for the one-year period ended June 30, 2022.

Sincerely,



Steve Center
Senior Vice President
c: Zach Hanna
Ivan Cliff

¹Note PERS asset class returns are used to represent the asset class performance of all plans.

Investment Section

Department of Revenue

Treasury Division Staff

As of June 30, 2022

Commissioner

Lucinda Mahoney

Chief Investment Officer

Zachary Hanna

Investment Officers

Shane Carson

Kevin Liu

Deputy Commissioner

Brian Fechter

Acting Comptroller

Ryan Kauzlarich

Casey Colton

Mark Moon

Victor Djajalie

Nicholas Orr

Kevin Elliot

Stephanie Pham

Treasury Division Director

Pamela Leary, CPA

Cash Management

Jesse Blackwell

Benjamin Garrett

Michelle Prebula

Emily Howard

Steve Sikes

ARMB Liaison Officer

Alysia Jones

Sean Howard

External Money Managers and Consultants

Alternate Fixed Income

Crestline Investors, Inc.

Fort Worth, TX

Prisma Capital

New York, NY

Opportunistic Fixed Income

Fidelity Investment Asset Management

Merrimack, NH

MacKay Shields LLC

New York, NY

Global Equities – Large Cap

Arrowstreet Capital, LP

Boston, MA

Baillie Gifford Overseas Ltd.

Edinburgh, Scotland

Brandes Investment Partners, L.P.

San Diego, CA

Capital Guardian Trust Co.

Los Angeles, CA

Legal and General Investment Management America

Chicago, IL

Emerging Market Income

Legal and General Investment Management America, Inc.

Chicago, IL

State Street Global Advisors

Boston, MA

Alternative Equity

McKinley Capital Management LLC

Anchorage, AK

Alternate Beta

Man Group

London, UK

Other Opportunities

Schroders Investment Management North America

New York, NY

Tactical Asset Allocation

Fidelity Investment Asset Management

Smithfield, RI

PineBridge Investments

New York, NY

Private Equity

Abbott Capital Management, L.P.

New York, NY

Advent International

Boston, MA

Angelo, Gordon & Co.

New York, NY

Battery Ventures

Boston, MA

Clearlake Capital

Santa Monica, CA

Dyal Capital Partners

New York, NY

Genstar Capital

San Francisco, CA

Glendon Capital

Santa Monica, CA

Insight Partners

New York, NY

KKR Lending Partners

New York, NY

Lexington Partners

New York, NY

Merit Capital Partners

Chicago, IL

Neuberger Berman

New York, NY

New Mountain Partners

New York, NY

NGP

Irving, TX

Onex Partners

New York, NY

Pathway Capital Management, LLC

Irvine, CA

Summit Partners

Boston, MA

The Jordan Company

New York, NY

The Riverside Company

New York, NY

Warburg Pincus

New York, NY

External Money Managers and Consultants (cont.)

Real Assets – Farmland and Timber

Timberland Investment Resources LLC
Atlanta, GA
 UBS Farmland Investors, LLC
Hartford, CT

Real Assets – Energy

EIG Global Energy Partners
Washington, D.C.

Real Assets – Infrastructure

IFM
New York, NY
 J.P. Morgan Asset Management
New York, NY

Real Assets – Real Estate Core Separate Accounts

Sentinel Real Estate Corporation
New York, NY
 UBS Realty Investors, LLC
Hartford, CT

Real Assets – Commingled Real Estate Funds

Almanac Realty Investors
New York, NY
 BlackRock Realty
New York, NY
 Clarion Partners
New York, NY
 DigitalBridge Group, Inc (formerly Colony Capital, Inc.)
Los Angeles, CA
 Coventry Real Estate Fund II, LLC
New York, NY
 J.P. Morgan Investment Management Inc.
New York, NY
 KKR & Co.
New York, NY
 Silverpeak Real Estate Partners
New York, NY
 Tishman Speyer Properties
New York, NY
 UBS Realty Investors, LLC
Hartford, CT

Supplemental Benefits System, Deferred Compensation Plan, and Defined Contribution Plan

Baillie Gifford Overseas Ltd.
Edinburgh, Scotland
 BlackRock
San Francisco, CA
 Brandes Investment Partners
San Diego, CA
 J.P. Morgan Asset Management Inc.
New York, NY
 Northern Trust
Chicago, IL
 State Street Global Advisors
Boston, MA
 T. Rowe Price Investment Services
Baltimore, MD

Investment Consultants

Callan Associates, Inc.
Denver, CO

Investment Advisory Council

Jerrold Mitchell
Johns Island, SC
 Ruth Ryerson
Monument, CO
 William Jennings
Colorado Springs, CO

Independent Auditors

KPMG, LLP
Anchorage, AK

Actuaries

Buck Global, LLC
Denver, CO
 Gabriel, Roeder, Smith & Co.
Denver, CO

Global Master Custodian

State Street Bank & Trust Co.
Boston, MA

Investment Section

Teachers' Retirement System Investment Report

INVESTMENTS

The investment goals of the State of Alaska Teachers' Retirement System (TRS) are the long-term return and sustainability of the pension funds under management. Annually, the Alaska Retirement Management Board (ARMB) sets its asset allocation strategy in order to reflect changes in the marketplace while still retaining an expected optimal risk/return level within the set constraints and objectives of the ARMB.

The ARMB categorizes its investments into six asset classes: Broad Domestic Equities, Global Equities Ex-U.S., Fixed Income, Multi-Asset, Real Assets, and Private Equity. The performance of each asset class is compared with a benchmark comprised of one or more market indices. The performance for the total portfolio is compared with its policy portfolio, determined by calculating the weighted performance of the underlying asset class benchmarks at the portfolio's target asset allocation. The asset class benchmarks are illustrated below:

| Asset Class | Benchmark |
|-------------------------|---|
| Broad Domestic Equity | Russell 3000 |
| Global Equities Ex-U.S. | MSCI All Country World Ex-U.S. IMI Net |
| Fixed Income | 95% Bloomberg Barclays U.S. Aggregate 5% 3-Month Treasury Bill |
| Opportunistic | 60% MSCI All Country World IMI Net 40% Bloomberg Barclays U.S. Aggregate |
| Real Assets | 35% NFI-ODCE 15% FTSE-NAREIT 25% NCREIF Farmland 10% NCREIF Timberland 15% CPI+4% |
| Private Equity | 1/3 S&P 500 1/3 Russell 2000 1/3 MSCI EAFE Net |

The target asset allocation is determined by the ARMB, utilizing capital market assumptions provided by its independent general investment consultant, Callan LLC. During the fiscal year, the ARMB's target asset allocation was 27% Broad Domestic Equity, 18% Global Equities Ex-U.S., 21% Fixed Income, 6% Opportunistic, 14% Real Assets, and 14% Private Equity. Over the next 20 years, the target asset allocation is expected to generate a return of 6.88% with a standard deviation of 13.89%.

Investment Section

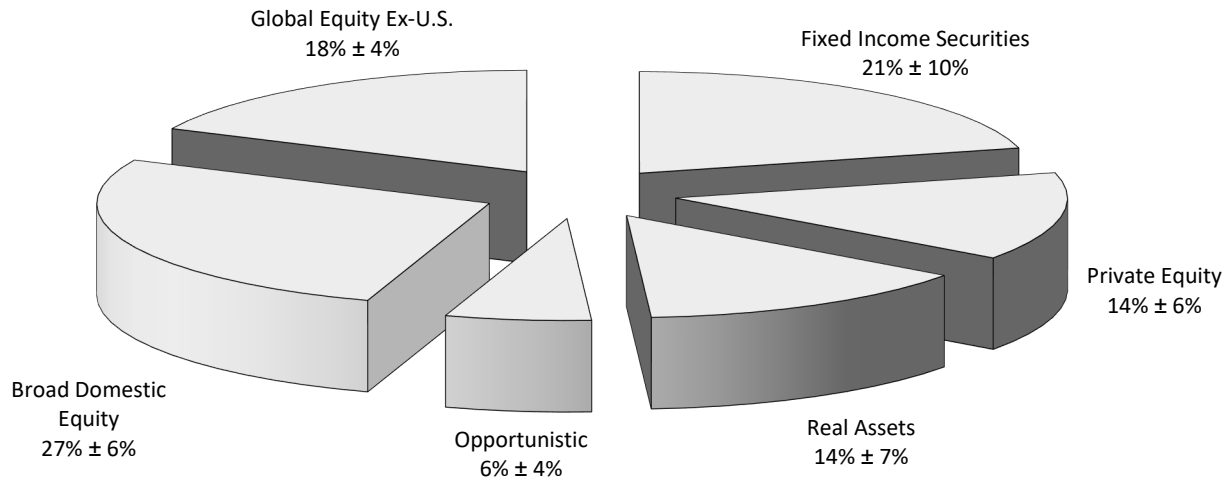
| Teachers' Retirement System Schedule of Investment Results Fiscal Years Ended June 30 | | | | | | | |
|---|--------|--------|--------|--------|---------|------------|--------|
| | 2018 | 2019 | 2020 | 2021 | 2022 | Annualized | |
| | | | | | | 3 Year | 5 Year |
| Total Fund | | | | | | | |
| TRS | 9.62% | 6.39% | 3.83% | 27.65% | (4.10%) | 8.32% | 8.19% |
| <i>Custom Composite Index</i> | - | 5.65 | 4.64 | 24.95 | (7.86) | 6.48 | 6.67 |
| <i>Actuarial Earnings Rate</i> | 8.00 | 7.38 | 7.38 | 7.38 | 7.38 | 7.38 | 7.38 |
| Broad Domestic Equity | | | | | | | |
| TRS | 15.22 | 8.40 | 2.62 | 42.68 | (11.73) | 8.93 | 10.05 |
| <i>Custom Composite Index</i> | 14.78 | 8.98 | 6.53 | 44.16 | (13.87) | 9.77 | 10.60 |
| Fixed Income | | | | | | | |
| TRS | (0.71) | 6.34 | 7.31 | 2.20 | (6.99) | 0.68 | 1.50 |
| <i>Custom Composite Index</i> | (0.76) | 6.19 | 7.67 | (0.31) | (9.78) | (1.07) | 0.41 |
| Opportunistic | | | | | | | |
| TRS | 5.63 | 7.21 | 0.52 | 23.86 | (10.58) | 3.64 | 4.74 |
| <i>Custom Composite Index</i> | 8.39 | 9.72 | 9.32 | 23.20 | (13.89) | 5.06 | 6.64 |
| Real Assets | | | | | | | |
| TRS | 7.53 | 6.09 | 2.06 | 9.86 | 14.29 | 8.62 | 7.89 |
| <i>Custom Composite Index</i> | 4.29 | 7.23 | 1.19 | 4.62 | 14.80 | 7.36 | 6.71 |
| Global Equity Ex-U.S. | | | | | | | |
| TRS | 7.95 | (0.08) | (3.59) | 38.53 | (20.96) | 1.82 | 2.63 |
| <i>MSCI ACWI ex-U.S.</i> | 7.75 | 0.26 | (4.74) | 37.18 | (19.86) | 1.55 | 2.50 |
| Private Equity | | | | | | | |
| TRS | 26.65 | 17.66 | 10.47 | 50.67 | 26.25 | 28.08 | 25.64 |
| <i>Custom Composite Index</i> | 12.92 | 2.71 | (1.35) | 36.80 | 3.42 | 11.75 | 10.11 |
| Absolute Return | | | | | | | |
| TRS | 4.78 | 4.08 | - | - | - | - | - |
| <i>3-month Treasury Bill +5%</i> | 5.18 | 1.15 | - | - | - | - | - |
| Cash Equivalent | | | | | | | |
| TRS | 1.53 | 2.50 | - | - | - | - | - |
| <i>3-month Treasury Bill</i> | 1.36 | 2.31 | - | - | - | - | - |

MSCI ACWI = Morgan Stanley Capital International All Country World Index
Returns for periods longer than one year are reported on an annualized basis.
Basis of calculation: Time-Weighed rate of return based on the market rate of return.

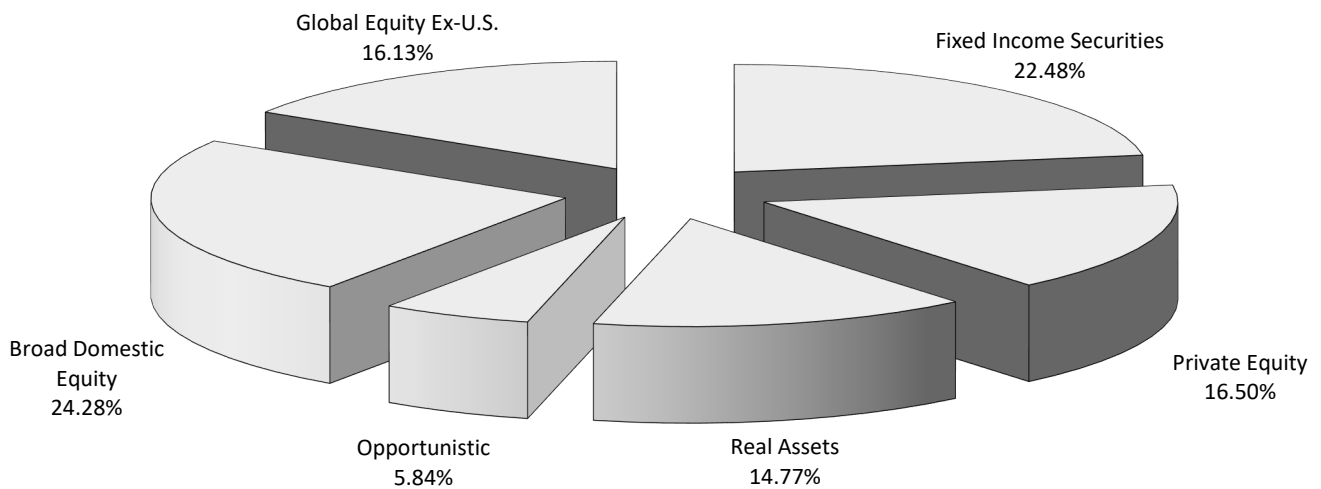
Investment Section

Teachers' Retirement System Asset Allocation June 30, 2022

Policy

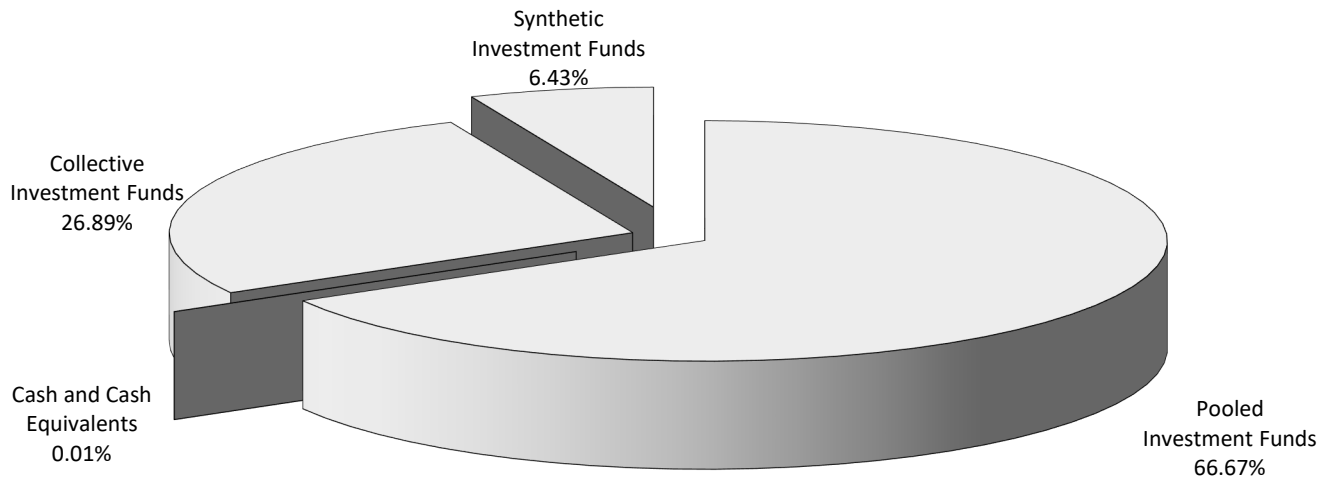


Actual — Defined Benefit Pension

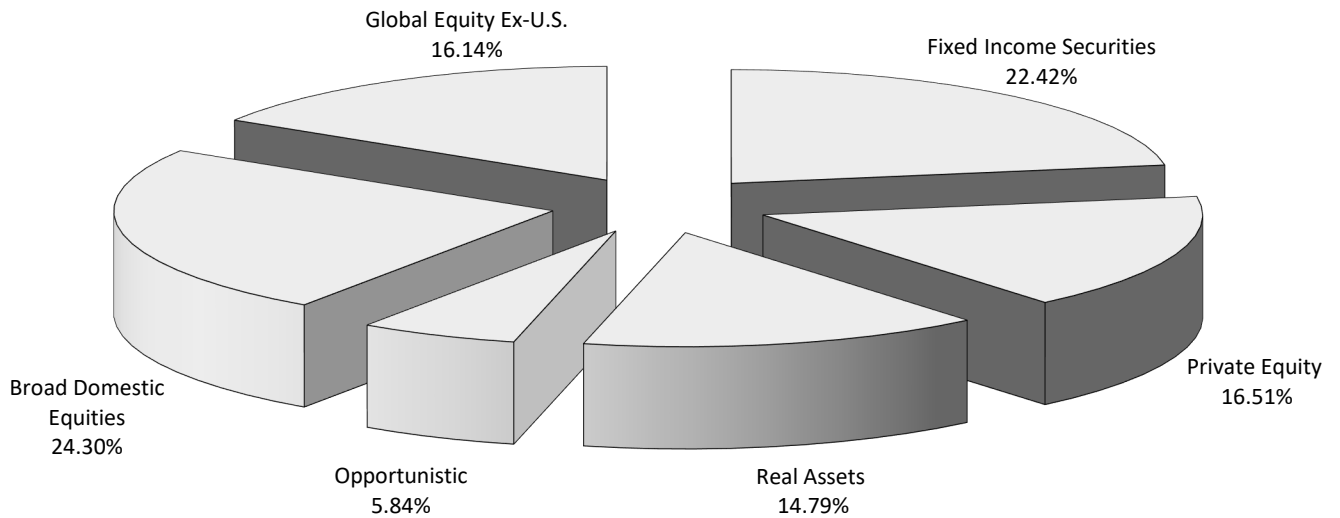


Teachers' Retirement System Asset Allocation June 30, 2022

Actual — Defined Contribution Participant Directed



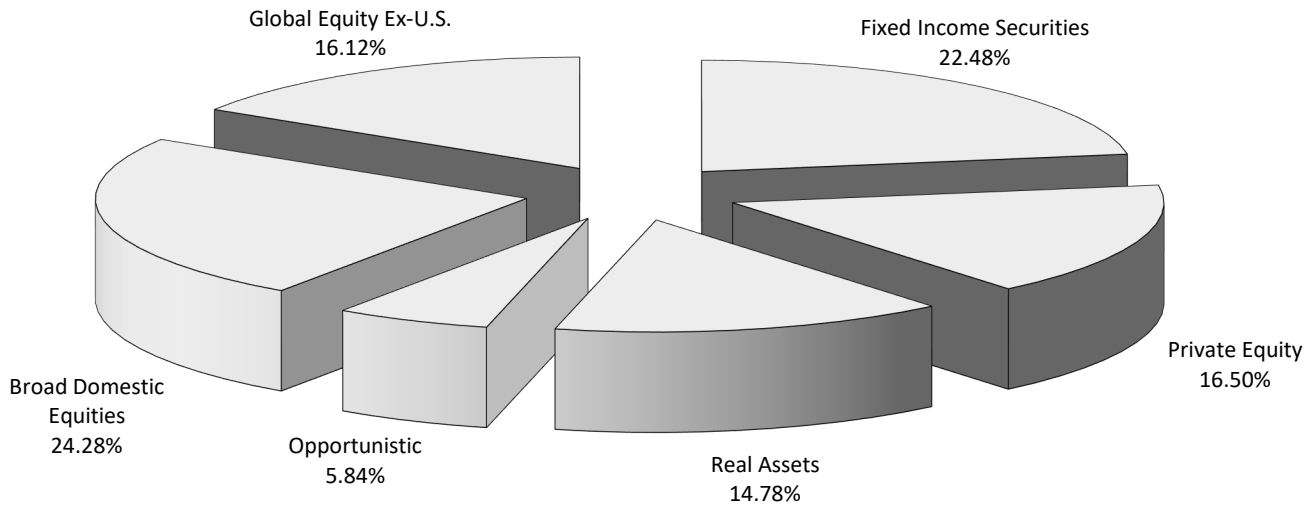
Actual — Defined Benefit Alaska Retiree Healthcare Trust



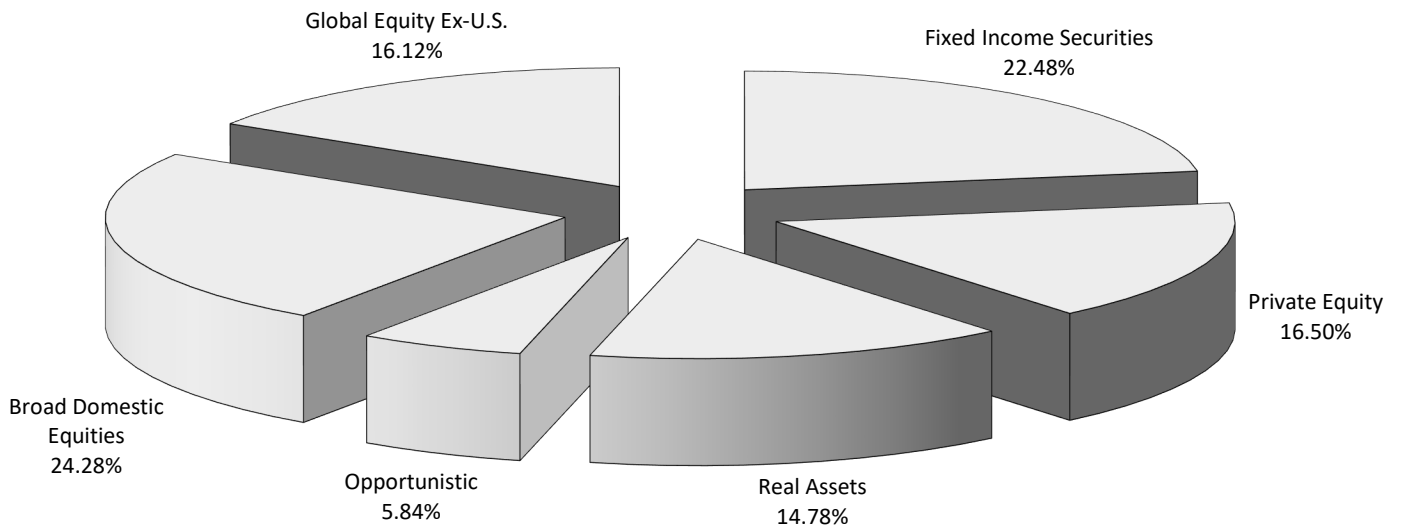
Investment Section

Teachers' Retirement System Asset Allocation June 30, 2022

Actual — Health Reimbursement Arrangement

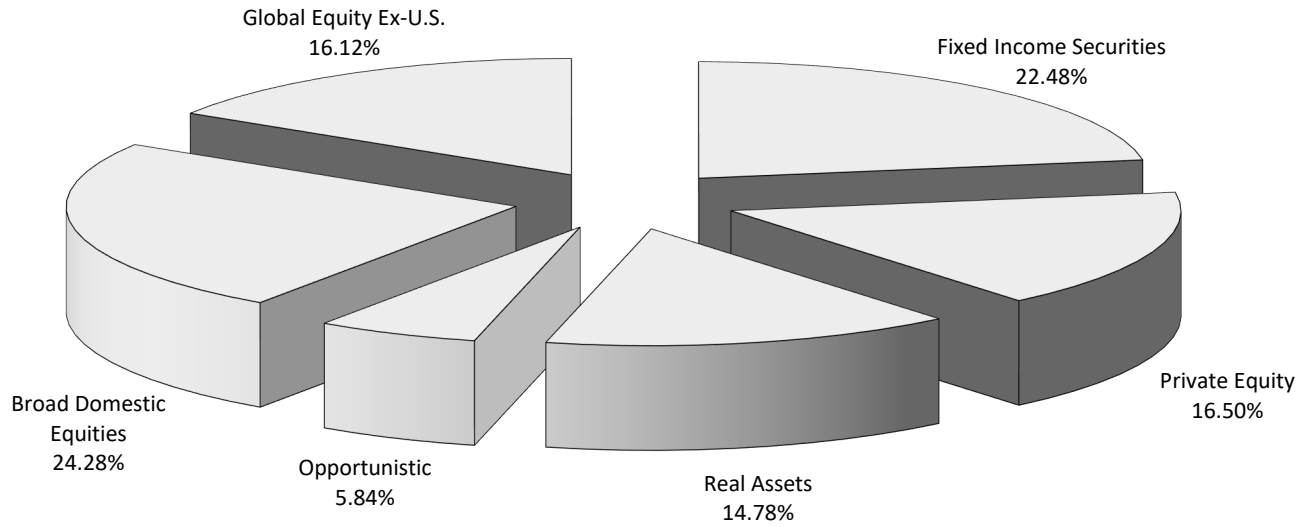


Actual — Occupational Death & Disability



**Teachers' Retirement System
Asset Allocation
June 30, 2022**

Actual — Retiree Medical Plan



Investment Section

Alaska Retirement Management Board Top Ten Holdings by Asset Type June 30, 2022

Invested assets under the fiduciary responsibility of the Alaska Retirement Management Board (ARMB) have been commingled in various investment pools to manage the overall cost of the program. Using investment pools increases investment efficiency in three ways. First, combining individual funds' cash inflows and outflows to offset each other reduces the amount of cash on hand needed to support daily operations. Second, pooling investments significantly reduces accounting, budgeting, and administrative costs. Finally, the ARMB can achieve economies of scale by making available investment options that could not otherwise be practically provided for smaller retirement funds. Below are the ten largest fixed income and equity holdings.

Fixed Income

| Rank | Largest Fixed Income Holdings | Market Value | Par Value |
|------|--|--------------|--------------|
| 1 | U.S. Treasury N/B 2.875% 6/15/2025 | \$42,354,824 | \$42,524,257 |
| 2 | FNMA Pool CB2662 3% 1/1/2052 | 41,615,799 | 44,570,361 |
| 3 | U.S. Treasury N/B 1.375% 11/15/2040 | 37,399,270 | 51,929,343 |
| 4 | U.S. Treasury N/B 2.25% 5/15/2041 | 36,288,419 | 43,487,666 |
| 5 | FED HM LN PC Pool SD8230 4.5% 6/1/2052 | 33,464,657 | 33,297,933 |
| 6 | FNMA Pool MA4644 4% 5/1/2052 | 30,777,101 | 31,173,957 |
| 7 | FED HM LN PC Pool RA1568 3% 10/1/2049 | 25,853,003 | 27,590,603 |
| 8 | FED HM LN PC Pool SD8217 4% 4/1/2052 | 25,523,888 | 25,840,029 |
| 9 | FNMA Pool MA4565 3.5% 3/1/2052 | 19,706,281 | 20,465,855 |
| 10 | FNMA Pool CB1146 3% 7/1/2051 | 18,462,951 | 19,785,834 |

Equities

| Rank | Largest Equity Holdings | Market Value | Share |
|------|------------------------------|---------------|---------|
| 1 | Apple Inc. | \$114,365,237 | 836,492 |
| 2 | Microsoft Corp. | 109,332,100 | 425,698 |
| 3 | Amazon.com Inc. | 50,645,418 | 476,842 |
| 4 | Alphabet Inc. CL A | 37,187,555 | 17,064 |
| 5 | Alphabet Inc. CL C | 33,556,914 | 15,341 |
| 6 | UnitedHealth Group Inc. | 32,902,134 | 64,058 |
| 7 | Berkshire Hathaway Inc. CL B | 30,566,895 | 111,958 |
| 8 | Tesla Inc. | 29,228,867 | 43,404 |
| 9 | Johnson & Johnson | 25,835,558 | 145,544 |
| 10 | Meta Platforms Inc. Class A | 24,580,091 | 152,435 |

Additional investment information may be obtained from the Alaska Department of Revenue, Treasury Division, P.O. Box 110405, Juneau, Alaska 99811-0405.

Investment Section

Teachers' Retirement System Schedule of Investment Management Fees Year Ended June 30, 2022

| | <u>Fair Value</u> | <u>Fees</u> |
|--|-------------------------|-------------------|
| Investment Management | | |
| Total Fixed Income | \$ 611,230,376 | 4,126,781 |
| Total Opportunistic | 566,390,385 | 2,452,658 |
| Total Broad Domestic Equity | 2,354,555,261 | 311,096 |
| Total Global Equity Ex-U.S. | 1,564,168,068 | 3,022,159 |
| Total Private Equity | 1,600,378,622 | 5,768,848 |
| Total Real Assets | 1,432,358,507 | 7,202,830 |
| | | |
| Custodian | | |
| State Street Bank | | 468,664 |
| | | |
| Investment Advisory and Performance | | |
| Callan Associates | | 186,067 |
| Investment Advisory Council | | 24,514 |
| Total Investment Advisory and Performance | | <u>210,581</u> |
| | | |
| Participant Directed | | |
| Custodian - State Street Bank | | 162,269 |
| Investment Management | | 911,698 |
| Synthetic Investment Contract Wrap Fees | | 90,943 |
| Total Participant Directed | | <u>1,164,910</u> |
| | | |
| | <u>\$ 8,129,081,219</u> | <u>24,728,527</u> |

Investment Section

Teachers' Retirement System Investment Summary Schedule June 30, 2022

| <u>Investments (at Fair Value)</u> | Defined Benefit - Pension | | | <u>% of Total Assets</u> |
|-------------------------------------|---------------------------|-------|-------------------------|--------------------------|
| | Asset Allocation | | Fair Value | |
| | Policy | Range | Fair Value | |
| Fixed Income Securities | | | | |
| Short-term Fixed Income Pool | | | \$ 68,941,525 | |
| Securities Lending Cash Pool | | | 17,121 | |
| Opportunistic Fixed Income | | | 215,644,970 | |
| ARMB U.S. Aggregate Fixed Income | | | 905,011,509 | |
| Alternative Fixed Income | | | 163,865,865 | |
| Total Fixed Income Securities | 21.00% | ± 10% | 1,353,480,990 | 22.48% |
| Opportunistic | | | | |
| Alternative Equity Strategies Pool | | | 62,167,552 | |
| Tactical Allocation Strategies Pool | | | 220,139,849 | |
| Other Opportunistic Pool | | | 845,819 | |
| Alternative Beta Pool | | | 68,516,589 | |
| Total Opportunistic | 6.00% | ± 4% | 351,669,809 | 5.84% |
| Broad Domestic Equity | | | | |
| Large Cap Pool | | | 1,343,554,927 | |
| Small Cap Pool | | | 118,380,155 | |
| Total Broad Domestic Equity | 27.00% | ± 6% | 1,461,935,082 | 24.28% |
| Global Equity Ex-U.S. | | | | |
| International Equity Pool | | | 793,624,368 | |
| Emerging Markets Equity Pool | | | 177,596,332 | |
| Total Global Equity Ex-U.S. | 18.00% | ± 4% | 971,220,700 | 16.13% |
| Private Equity | | | | |
| Private Equity Pool | | | 993,669,485 | |
| Total Private Equity | 14.00% | ± 6% | 993,669,485 | 16.50% |
| Real Assets | | | | |
| Real Estate Pool | | | 354,865,054 | |
| Real Estate Investment Trust Pool | | | 99,266,163 | |
| Infrastructure Private Pool | | | 157,229,996 | |
| Energy Pool | | | 12,525,232 | |
| Farmland Pool | | | 189,617,401 | |
| Timber Pool | | | 75,558,818 | |
| Total Real Assets | 14.00% | ± 7% | 889,062,664 | 14.77% |
| Total Invested Assets | 100.00% | | \$ 6,021,038,730 | 100.00% |

Investment Section

Teachers' Retirement System Investment Summary Schedule June 30, 2022

| Investments (at Fair Value) | Defined Contribution - Participant Directed | | | % of Total Assets |
|--|---|-------|-----------------------|-------------------|
| | Asset Allocation | | Fair Value | |
| | Policy | Range | | |
| Cash and Cash Equivalents | | | | |
| Short-Term Fixed Income Pool | 100.00% | 0% | \$ 98,072 | |
| Total Cash and Cash Equivalents | | | 98,072 | 0.01% |
| Pooled Investment Funds (1) | | | | |
| T. Rowe Price | | | | |
| Alaska Balanced Trust | | | 22,029,925 | |
| Long-Term Balanced Fund | | | 13,987,778 | |
| Target 2010 Trust | | | 1,201,739 | |
| Target 2015 Trust | | | 3,686,138 | |
| Target 2020 Trust | | | 11,606,160 | |
| Target 2025 Trust | | | 24,644,559 | |
| Target 2030 Trust | | | 34,444,007 | |
| Target 2035 Trust | | | 48,112,459 | |
| Target 2040 Trust | | | 57,999,637 | |
| Target 2045 Trust | | | 82,074,710 | |
| Target 2050 Trust | | | 113,264,769 | |
| Target 2055 Trust | | | 76,812,904 | |
| Target 2060 Trust | | | 4,311,557 | |
| Target 2065 Trust | | | 837,026 | |
| Total Pooled Investment Funds | | | 495,013,368 | 66.68% |
| Collective Investment Funds (1) | | | | |
| State Street Global Advisors | | | | |
| SSgA Treasury Money Market Fund | | | 5,394,536 | |
| S&P Stock Index Fund | | | 21,286,567 | |
| Russell 3000 Index | | | 30,985,654 | |
| World Equity Ex-U.S. Index | | | 23,066,209 | |
| Passive U.S. Bond Index Fund | | | 22,530,468 | |
| Brandes Institutional | | | | |
| Alaska International Equity Fund | | | 32,472,126 | |
| BlackRock Institutional Trust Company | | | | |
| Strategic Completion Fund | | | 1,676,299 | |
| RCM | | | | |
| Sustainable Core Opportunities Fund | | | 25,573,916 | |
| T. Rowe Price | | | | |
| Small-Cap Stock Fund | | | 36,663,897 | |
| Total Collective Investment Funds | | | 199,649,672 | 26.89% |
| Synthetic Investment Funds (1) | | | | |
| T. Rowe Price | | | | |
| Stable Value Fund | | | 47,694,837 | |
| Total Collective Investment Funds | | | 47,694,837 | 6.42% |
| Total Invested Assets | | | \$ 742,455,949 | 100.00% |

(1) Pooled Investment Funds, Collective Investment Funds and Synthetic Investment Funds are participant directed and therefore are not subject to an asset allocation.

Investment Section

Teachers' Retirement System Investment Summary Schedule June 30, 2022

| Investments (at Fair Value) | Defined Benefit - Alaska Retiree Healthcare Trust | | | % of Total Assets |
|-------------------------------------|---|-------|-------------------------|-------------------|
| | Asset Allocation | | Fair Value | |
| | Policy | Range | | |
| Fixed Income Securities | | | | |
| Short-term Fixed Income Pool | | | \$ 36,490,265 | |
| Securities Lending Cash Pool | | | 9,637 | |
| Opportunistic Fixed Income Pool | | | 121,887,880 | |
| ARMB U.S. Aggregate Fixed Income | | | 511,535,163 | |
| Alternative Fixed Income | | | 92,621,092 | |
| Total Fixed Income Securities | 21.00% | ± 10% | 762,544,037 | 22.42% |
| Opportunistic | | | | |
| Alternative Equity Strategies Pool | | | 35,138,633 | |
| Tactical Allocation Strategies Pool | | | 124,428,516 | |
| Other Opportunistic Pool | | | 478,094 | |
| Alternative Beta Pool | | | 38,727,294 | |
| Total Opportunistic | 6.00% | ± 4% | 198,772,537 | 5.84% |
| Broad Domestic Equity | | | | |
| Large Cap Pool | | | 759,410,871 | |
| Small Cap Pool | | | 66,911,467 | |
| Total Broad Domestic Equity | 27.00% | ± 6% | 826,322,338 | 24.30% |
| Global Equity Ex-U.S. | | | | |
| International Equity Pool | | | 448,532,859 | |
| Emerging Markets Equity Pool | | | 100,381,890 | |
| Total Global Equity Ex-U.S. | 18.00% | ± 4% | 548,914,749 | 16.14% |
| Private Equity | | | | |
| Private Equity Pool | | | 561,646,838 | |
| Total Private Equity | 14.00% | ± 6% | 561,646,838 | 16.51% |
| Real Assets | | | | |
| Real Estate Pool | | | 201,001,646 | |
| Real Estate Investment Trust Pool | | | 56,107,718 | |
| Infrastructure Private Pool | | | 88,870,297 | |
| Energy Pool | | | 7,079,574 | |
| Farmland Pool | | | 107,176,549 | |
| Timber Pool | | | 42,707,697 | |
| Total Real Assets | 14.00% | ± 7% | 502,943,481 | 14.79% |
| Total Invested Assets | 100.00% | | \$ 3,401,143,980 | 100.00% |

Investment Section

Teachers' Retirement System Investment Summary Schedule June 30, 2022

| Investments (at Fair Value) | Health Reimbursement Arrangement | | | % of Total Assets |
|-------------------------------------|----------------------------------|-------|-----------------------|-------------------|
| | Asset Allocation | | Fair Value | |
| | Policy | Range | | |
| Fixed Income Securities | | | | |
| Short-term Fixed Income Pool | | | \$ 2,312,769 | |
| Securities Lending Cash Pool | | | 561 | |
| Opportunistic Fixed Income Pool | | | 7,166,234 | |
| ARMB U.S. Aggregate Fixed Income | | | 30,074,923 | |
| Alternate Fixed Income | | | 5,445,537 | |
| Total Fixed Income Securities | 21.00% | ± 10% | 45,000,024 | 22.48% |
| Opportunistic | | | | |
| Alternative Equity Strategies Pool | | | 2,065,922 | |
| Tactical Allocation Strategies Pool | | | 7,315,596 | |
| Other Opportunistic Pool | | | 28,135 | |
| Alternative Beta Pool | | | 2,276,941 | |
| Total Opportunistic | 6.00% | ± 4% | 11,686,594 | 5.84% |
| Broad Domestic Equity | | | | |
| Large Cap Pool | | | 44,648,369 | |
| Small Cap Pool | | | 3,933,921 | |
| Total Broad Domestic Equity | 27.00% | ± 6% | 48,582,290 | 24.28% |
| Global Equity Ex-U.S. | | | | |
| International Equity Pool | | | 26,364,780 | |
| Emerging Markets Equity Pool | | | 5,901,812 | |
| Total Global Equity Ex-U.S. | 18.00% | ± 4% | 32,266,592 | 16.12% |
| Private Equity | | | | |
| Private Equity Pool | | | 33,021,162 | |
| Total Private Equity | 14.00% | ± 6% | 33,021,162 | 16.50% |
| Real Assets | | | | |
| Real Estate Pool | | | 11,817,537 | |
| Real Estate Investment Trust Pool | | | 3,298,758 | |
| Infrastructure Private Pool | | | 5,224,969 | |
| Energy Pool | | | 416,283 | |
| Farmland Pool | | | 6,301,308 | |
| Timber Pool | | | 2,510,915 | |
| Total Real Assets | 14.00% | ± 7% | 29,569,770 | 14.78% |
| Total Invested Assets | 100.00% | | \$ 200,126,432 | 100.00% |

Investment Section

Teachers' Retirement System Investment Summary Schedule June 30, 2022

| Investments (at Fair Value) | Occupational Death and Disability | | | % of Total Assets |
|-------------------------------------|-----------------------------------|-------|---------------------|-------------------|
| | Policy | Range | Fair Value | |
| Fixed Income Securities | | | | |
| Short-term Fixed Income Pool | | | \$ 75,455 | |
| Securities Lending Cash Pool | | | 18 | |
| Opportunistic Fixed Income Pool | | | 233,314 | |
| ARMB U.S. Aggregate Fixed Income | | | 979,174 | |
| Alternative Fixed Income | | | 177,281 | |
| Total Fixed Income Securities | 21.00% | ± 10% | 1,465,242 | 22.48% |
| Opportunistic | | | | |
| Alternative Equity Strategies Pool | | | 67,255 | |
| Tactical Allocation Strategies Pool | | | 238,211 | |
| Other Opportunities Pool | | | 894 | |
| Alternative Beta Pool | | | 74,090 | |
| Total Opportunistic | 6.00% | ± 4% | 380,450 | 5.84% |
| Broad Domestic Equity | | | | |
| Large Cap Pool | | | 1,453,621 | |
| Small Cap Pool | | | 128,091 | |
| Total Broad Domestic Equity | 27.00% | ± 6% | 1,581,712 | 24.28% |
| Global Equity Ex-U.S. | | | | |
| International Equity Pool | | | 858,326 | |
| Emerging Markets Equity Pool | | | 192,169 | |
| Total Global Equity Ex-U.S. | 18.00% | ± 4% | 1,050,495 | 16.12% |
| Private Equity | | | | |
| Private Equity Pool | | | 1,075,028 | |
| Total Private Equity | 14.00% | ± 6% | 1,075,028 | 16.50% |
| Real Assets | | | | |
| Real Estate Pool | | | 384,748 | |
| Real Estate Investment Trust Pool | | | 107,438 | |
| Infrastructure Private Pool | | | 170,094 | |
| Energy Pool | | | 13,575 | |
| Farmland Pool | | | 205,111 | |
| Timber Pool | | | 81,754 | |
| Total Real Assets | 14.00% | ± 7% | 962,720 | 14.78% |
| Total Invested Assets | 100.00% | | \$ 6,515,647 | 100.00% |

Investment Section

Teachers' Retirement System Investment Summary Schedule June 30, 2022

| Investments (at Fair Value) | Retiree Medical Plan | | | % of Total Assets |
|-------------------------------------|----------------------|-------|----------------------|-------------------|
| | Asset Allocation | | Fair Value | |
| | Policy | Range | | |
| Fixed Income Securities | | | | |
| Short-term Fixed Income Pool | | | \$ 769,775 | |
| Securities Lending Cash Pool | | | 186 | |
| Opportunistic Fixed Income Pool | | | 2,379,818 | |
| ARMB U.S. Aggregate Fixed Income | | | 9,987,665 | |
| Alternative Fixed Income | | | 1,808,384 | |
| Total Fixed Income Securities | 21.00% | ± 10% | 14,945,828 | 22.48% |
| Opportunistic | | | | |
| Alternative Equity Strategies Pool | | | 686,093 | |
| Tactical Allocation Strategies Pool | | | 2,429,478 | |
| Other Opportunities Pool | | | 9,297 | |
| Alternative Beta Pool | | | 756,127 | |
| Total Opportunistic | 6.00% | ± 4% | 3,880,995 | 5.84% |
| Broad Domestic Equity | | | | |
| Large Cap Pool | | | 14,827,390 | |
| Small Cap Pool | | | 1,306,449 | |
| Total Broad Domestic Equity | 27.00% | ± 6% | 16,133,839 | 24.28% |
| Global Equity Ex-U.S. | | | | |
| International Equity Pool | | | 8,755,631 | |
| Emerging Markets Equity Pool | | | 1,959,900 | |
| Total Global Equity Ex-U.S. | 18.00% | ± 4% | 10,715,531 | 16.12% |
| Private Equity | | | | |
| Private Equity Pool | | | 10,966,108 | |
| Total Private Equity | 14.00% | ± 6% | 10,966,108 | 16.50% |
| Real Assets | | | | |
| Real Estate Pool | | | 3,924,500 | |
| Real Estate Investment Trust Pool | | | 1,095,474 | |
| Infrastructure Private Pool | | | 1,735,143 | |
| Energy Pool | | | 138,278 | |
| Farmland Pool | | | 2,092,610 | |
| Timber Pool | | | 833,866 | |
| Total Real Assets | 14.00% | ± 7% | 9,819,871 | 14.78% |
| Total Invested Assets | 100.00% | | \$ 66,462,172 | 100.00% |

Investment Section

Teachers' Retirement System Recaptured Commission Fees Year Ended June 30, 2022

| <u>Fund</u> | <u>Opportunistic</u> | <u>Total</u> |
|--|----------------------|--------------|
| Defined Benefit Plan – Pension | \$ 5,704 | 5,704 |
| Postemployment Benefit – Alaska Retiree Healthcare Trust | 3,150 | 3,150 |
| Postemployment Benefit – Health Reimbursement Arrangement | 176 | 176 |
| Postemployment Benefit – Retiree Medical Plan | 59 | 59 |
| Postemployment Benefit – Occupational Death and Disability | 6 | 6 |
| Total Recapture Commission Fees | <u>\$ 9,095</u> | <u>9,095</u> |

The ARMB's Commission Recapture program has been in place since 1995, first working with various brokers then switching to the State Street program in 2005. Under a commission recapture program, a portion of the commissions and mark-ups on trades (placed through the State Street broker network) flow directly back to the fund.

The program allows managers to place trades for commission recapture purposes. The ARMB has established direction percentages for the managers to strive for, but is only requiring best efforts to meet them given their fiduciary obligation to achieve best execution of transactions.

The current rebate arrangement with State Street Global Markets (SSGM) is: 90% of the commissions received in excess of executing the brokers' execution-only rates; 100% of commissions in excess of its execution-only rates for all trading directed through SSGM.