

Defined Benefit Investments *(Continued)*



2022 Investment Summary

(dollars in thousands)

	2022 Beginning Fair Value	Purchases	Sales and Redemptions	Increase (Decrease) in Fair Value	2022 Ending Fair Value Balance	Percent of Total Fair Value
Short-term securities	\$ 3,370,779	35,880,523	(38,130,726)	100,313	1,220,889	2.88%
Equities	16,912,685	3,507,497	(3,957,712)	(3,391,785)	13,070,685	30.81
Debt securities	5,456,730	39,275,787	(37,518,975)	(753,917)	6,459,625	15.23
Real assets	6,948,865	1,563,751	(543,399)	644,426	8,613,643	20.30
Private equity	5,973,606	599,763	(380,236)	(663,506)	5,529,627	13.03
Absolute return	6,875,008	4,268,730	(3,579,195)	(33,728)	7,530,815	17.75
Totals	\$ 45,537,673	85,096,051	(84,110,243)	(4,098,197)	42,425,284	100.00%

Outline of Investment Policies

The governing body of the Utah Retirement Systems (Systems) is the seven member Utah State Retirement Board (Board). The Board is composed of the Utah State Treasurer, who serves as an ex-officio member, and six trustees who are appointed by the Governor. Four board members are appointed for their investment expertise, and two members are appointed to represent employee and employer interests.

The Board has statutory authority to pool pension assets in the Utah State Retirement Investment Fund (Fund). Statutes also establish that this Fund will be invested in accordance with the “prudent investor rule.” The prudent investor rule requires all members of the Board and investment staff to discharge their duties solely in the interest of Systems’ participants and beneficiaries and with the care, skill, prudence, and diligence that they

would exercise in the conduct of their own affairs. To this end, a Statement of Investment Policy and Performance Objectives has been created for the Fund and adopted by the Board. The purpose of this Statement is to:

- » Outline the expected return and risk profile for the Fund;
- » Establish the target asset allocation mix and acceptable rebalancing ranges;
- » Describe plan and manager policies and objectives for performance evaluation.

The primary investment objectives are to preserve Fund assets and generate an appropriate level of risk-adjusted return to meet future pension obligations.

The Systems periodically complete an asset allocation and liability study to determine the optimal portfolio diversification to meet those obligations.

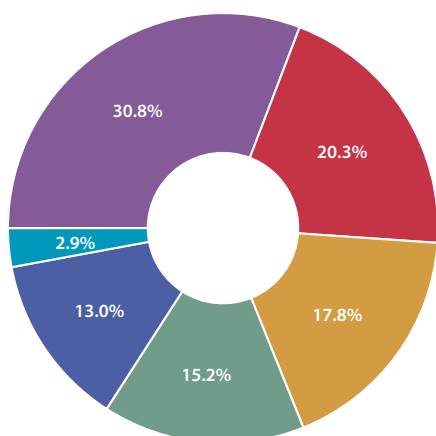
Defined Benefit Investments *(Continued)*

The Systems' investment portfolio includes strategic, long-term commitments in the following asset classes: Equities, Debt Securities, Real Assets, Private Equity, and Absolute Return. Asset allocation is reviewed in conjunction with the plan liabilities at least every five years.

The Board's policy is to establish a long-term strategic asset allocation that manages overall expected portfolio risk (volatility) and maximizes expected return without unduly constraining the discretionary, tactical decision-making process of the investment managers.

Defined Benefit Systems Investments at Fair Value

December 31, 2022



December 31,	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Equities securities	37.6%	35.5	33.9	35.2	37.8	35.1	37.7	39.9	37.1	30.8
Debt securities	15.9	15.6	15.8	15.0	14.2	16.9	17.3	13.5	12.0	15.2
Private equity	11.0	11.8	11.9	11.3	10.7	11.7	11.3	11.5	13.1	13.0
Real assets	12.2	14.0	14.9	14.7	14.8	16.6	13.9	13.3	15.3	20.3
Short-term securities	6.6	5.8	8.2	8.2	8.6	5.1	5.2	6.7	7.4	2.9
Absolute return	16.7	17.2	15.3	15.5	13.9	14.7	14.6	15.1	15.1	17.8
Total portfolio	100.0%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

To implement the asset allocation plan, the Executive Director, supported by the Board, staff, and consultant, selects appropriate money management experts to invest the Fund assets. This selection process includes the creation of specific search criteria, completion and documentation of analysis, and due diligence on potential candidates. It is not the staff or Board's intention to be involved with the day-to-day decisions made by external investment managers. Internal investment staff also manages segments of the portfolio.

All managers are expected to communicate with the staff at least quarterly.

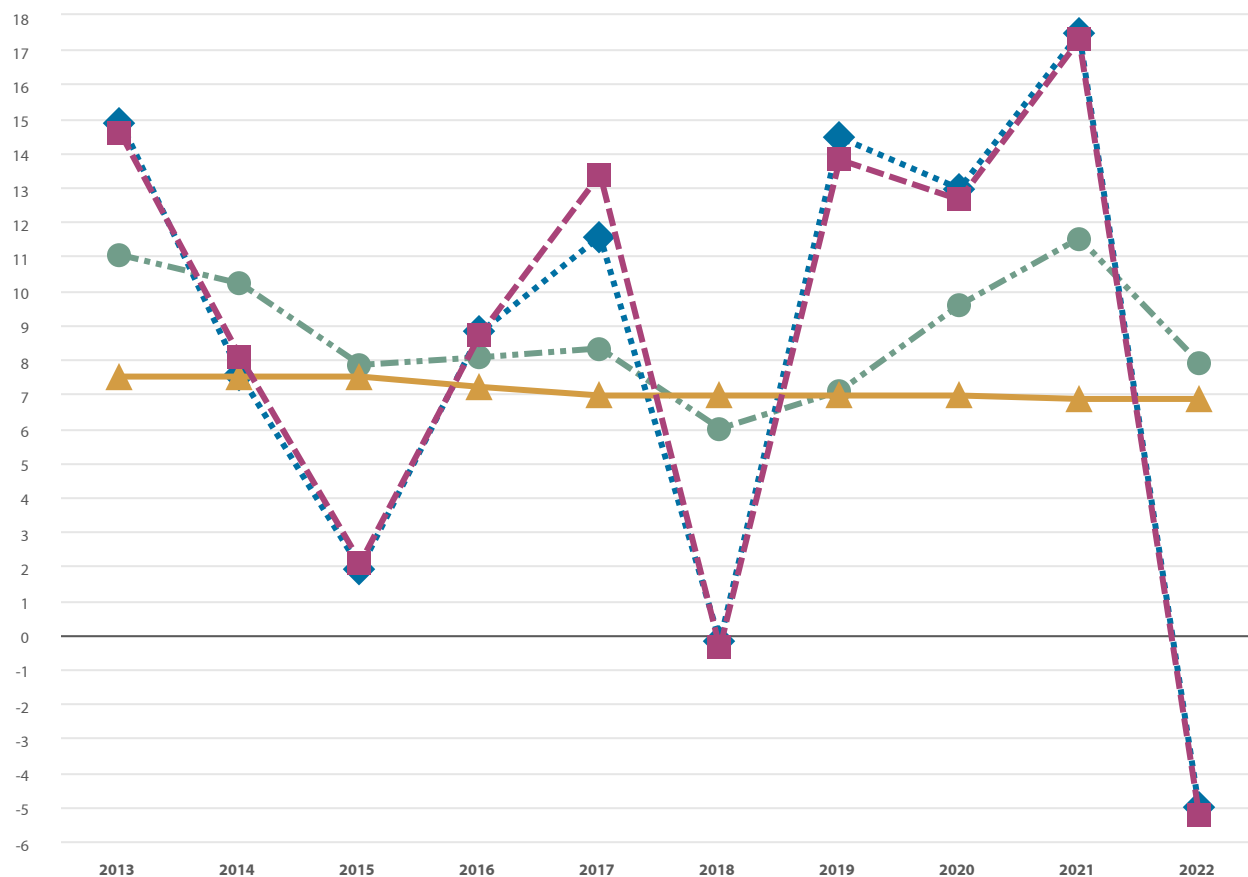
Managers' portfolios are evaluated both against appropriate market indices and similar manager style groups. The investment policy outlines appropriate benchmarks.

Investment return calculations are prepared using a time-weighted rate of return.

The allocation of assets as reported to the board are as follows: Equity securities, Debt securities, Absolute return, Private equity and Real assets. These allocation percentages differ from investment asset percentages presented in the MD&A and Statement of Fiduciary Net Position as a result of different methodologies used to categorize investment assets and the impact of derivatives for investment purposes versus financial statement presentation purposes. For investment purposes the impact of derivatives used to rebalance the defined portfolio are expressed using the notional value of those derivatives.

Defined Benefit Investments *(Continued)*

10-Year Total Pension Investment Rates of Return

(in percents)*(dollars in millions)*

	Total Investment Portfolio Fair Value	(1) Smooth Expected Rate of Return	(2) Fair Value Rate of Return	(3) Actuarial Assumed Interest Rate	(4) Money Weighted Rate of Return
2013	\$ 25,765	11.03%	14.89%	7.50%	14.55%
2014	26,955	10.20	7.52	7.50	7.94
2015	27,086	7.84	1.92	7.50	2.02
2016	29,017	8.06	8.79	7.20	8.73
2017	32,125	8.32	13.57	6.95	13.38
2018	31,376	5.99	(0.22)	6.95	(0.38)
2019	35,612	7.08	14.45	6.95	13.80
2020	39,308	9.58	12.96	6.95	12.64
2021	45,538	11.52	17.46	6.85	17.28
2022	42,425	7.91	(5.04)	6.85	(5.23)

Smoothed Expected Rate of Return consists of investment income in excess or shortfall of the expected 6.85% on fair value smoothed over a 5-year period with 20% of a year's excess or shortfall being recognized each year beginning with the current year.

- (1) **Fair Value Rate of Return** consists of cash income plus gains and losses due to changes in fair value, whether realized or unrealized (before deduction of investment fees). (For 2022, (5.20)% net of fees.)
- (2) **Actuarial Assumed Interest Rate** is the assumed rate of return on the fair value of assets, and is used in establishing retirement contribution rates and in determining current benefit reserve requirements.
- (3) **Money Weighted Rate or Return** is calculated as the internal rate of return on pension plan investments, net of investment expenses.

Defined Benefit Investments *(Continued)*Comparative Investment Results ⁽¹⁾⁽²⁾⁽³⁾

Year Ended December 31, 2022

Investment Option Comparative Index	1 Year	3 Year	5 Year	10 Year
Global Equity*	(16.16)%	4.63%	5.13%	8.37%
FTSE Global All Cap Index	(18.27)	3.89	4.97	7.92
Global Debt Securities*	(13.33)	(1.64)	0.74	1.76
Fund Benchmark	(13.73)	(2.32)	0.30	1.41
<i>Benchmark consisting of:</i>				
60% Bloomberg U.S. Aggregate Bond Index				
15% Bloomberg Global Aggregate Bond Index Hedged				
25% Bloomberg World Government Inflation-Linked Bond Index Hedged				
Real Assets**	14.83	11.99	10.01	10.33
U.S. Consumer Price Index + 5%	11.27	10.14	8.89	7.57
Private Equity	(6.28)	26.21	23.31	19.57
Private Equity Benchmark				
Russell 3000 + 2.5%	(16.54)	9.91	11.55	14.78
Absolute Return	5.58	7.21	5.83	5.53
3-month Treasury Bills + 5.0%	6.46	5.72	6.26	5.76
Short Term	6.34	2.58	3.10	1.67
3 Month Treasury Bills	1.46	0.72	1.26	0.76
Total Fund***	(5.04)	7.99	7.56	8.37
Fund Benchmark	(9.05)	5.28	6.07	7.22
<i>Benchmark consisting of:</i>				
35% FTSE Global All Cap Index				
15% 3-month Treasury Bill + 5%				
18% CPI-W + 5%				
12% Bloomberg U.S. Aggregate Bond Index				
12% Russell 3000 Index + 2.5%				
5% Bloomberg World Government Inflation-Linked Bond Index Hedged				
3% Bloomberg Global Aggregate Bond Index Hedged				
CAI Public Fund — Very Large Database Median	(9.96)	5.58	6.18	7.57
Inflation	6.25	5.14	3.89	2.57

(1) Investment measurement services provided by Callan Associates Inc.

(2) Total rates of return include cash income plus gains and losses due to changes in fair value, where realized or unrealized.

(3) Investment return calculations were prepared using a time-weighted return except private equity which is prepared using a dollar weighted return.

*Global equity and fixed income returns are reported at gross for comparability to the benchmarks which are reported as gross of fees. All other returns are reported a net of fees.

**The non real estate portion of Real Assets only reflects returns for years 1, 3 and 5. Year 10 is for real estate only using a NCREIF Total Index Benchmark.

***Total fund return is blended based upon gross returns for global equity and fixed income and net returns for Real Assets, Absolute Return, Short Term and Private Equity. Total fund net return is (5.20)%, 7.83%, 7.39% and 8.19% for 1, 3, 5 and 10 year periods.

Defined Benefit Investments *(Continued)*

List of Largest Assets Held

December 31, 2022

Largest Equity Holdings*

Description	<i>(By Fair Value)</i>	
	Shares	Fair Value
Microsoft Corp.	1,021,410	\$ 244,954,546
Apple Inc.	1,862,076	241,939,535
Alphabet Inc.	1,844,160	163,040,687
Amazon Inc.	1,178,980	99,034,320
United Healthcare Group	174,319	92,420,447
Johnson & Johnson Company	326,092	57,604,152
Exxon Mobile Corp	510,572	56,316,092
S&P Global Inc	167,448	56,085,033
Visa Inc.	262,950	54,630,492
Embraer	19,689,150	53,364,598

Largest Debt Securities Holdings

Description	<i>(By Fair Value)</i>	
	Par Value	Fair Value
United States Treasury Note 4.375% 10/31/2024	\$ 120,167,000	\$ 119,880,665
United States Treasury Note 3.875% 11/30/2027	111,371,000	110,944,659
United States Treasury Note 3.625% 12/31/2029	101,860,000	101,589,434
United States Treasury Note 2.375% 02/15/2042	74,205,000	57,062,486
United States Treasury Note 3.125% 08/15/2025	56,693,000	55,085,222
Germany Federal Republic 0.4% 09/13/2024	51,800,000	53,254,206
FNMA Pool 2.0% 02/01/2052	63,247,529	51,639,846
FNMA Single Family Mortgage 0% 1/2023	56,882,100	51,167,485
United States Treasury Inflation Linked Bond 0.625% 01/15/2024	40,873,000	51,110,253
United States Treasury Note 1.5% 02/15/2025	51,045,000	48,080,003

*As required by SEC Rule 13F, a list of publicly traded equity securities held by Utah Retirement Systems is available online through the SEC Electronic Data Gathering, Analysis, and Retrieval (EDGAR) website. This list is also available upon request.

Schedules of Fees and Commissions

Year Ended December 31, 2022

Broker Commission Fees

Broker	Commissions
Morgan Stanley	\$ 391,838
Instinet	242,931
Goldman Sachs	271,019
Cowen	112,025
Jefferies	93,258
Gordan Haskett Capital	86,006
ISI Group	82,932
Direct Trading Institutional	64,627
Sanford C. Bernstein	54,205
Merrill Lynch	49,924
Other	1,187,349
Total	\$ 2,636,114

Schedule of Investment Fees and Commissions

Investment advisor fees:*	
Absolute return	\$ 15,817,576
Equity securities	31,694,341
Debt securities	7,669,882
Private equity	13,988,253
Real assets	44,204,888
Short term	549,056
Total investment advisor fees	113,923,996
Investment brokerage fees	2,636,114
Total fees and commissions	\$ 116,560,110

*Represents fees that are invoiced and paid directly by URS. These numbers do not represent all management, performance, carried interest, or other fees charged directly by investment advisors. These and other investment related fees are netted from returns.

Utah Retirement Systems uses a commission recapture program as part of its trading strategies. During the year ending December 31, 2022, Utah Retirement Systems recaptured approximately \$97,742 from the gross commission charges. This recaptured sum was used to cover or offset the \$160,850 in investment expenses that otherwise would have been paid for with investment funds.