



ASPRS

ARKANSAS STATE POLICE
RETIREMENT SYSTEM

ANNUAL COMPREHENSIVE FINANCIAL REPORT
For Fiscal Year 2023

**Arkansas State Police Retirement System
Annual Comprehensive Financial Report**

For Fiscal Year 2023

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Introduction



ASPRS
ARKANSAS STATE POLICE
RETIREMENT SYSTEM



A Brief History of ASPRS

With the passage of Act 311 on March 19, 1951, the Arkansas General Assembly created the Arkansas State Police Retirement System (ASPRS or the system). This system provides for the retirement of police officer employees of the Arkansas State Police, within the Department of Public Safety.

In the beginning, all ASPRS members participated in a contributory plan whereby employers and employees made contributions to the system. However, in 1977, Act 793 was signed by then Governor David Pryor. This legislation offered a choice to employees who were currently under the contributory plan. They could remain under the contributory plan or change over to the new non-contributory plan in which only employers make contributions to the system. This choice was offered to employees who were ASPRS members at some previous time and returned to work for the system on or after January 1, 1978; however, anyone joining the system on or after, January 1, 1978, who was not previously an ASPRS member is automatically covered under the new non-contributory plan.

Act 1071 of 1997 created the Tier Two Benefit Plan for the State Police Retirement System (Tier II) for all officers hired on or after April 3, 1997. Members of the plan in effect before April 3, 1997 (Tier I) had one year from April 3, 1997 to elect participation in Tier II.

Act 1242 of 2009 merged the investable assets of ASPRS with those of the Arkansas Public Employees Retirement System (APERS). All authority over investment of the merged assets was granted to the Board of Trustees of the Arkansas Public Employees Retirement System (APERS Board). Investment schedules contained herein reflect the market values accruing to each system.

This annual financial report, which covers the period from July 1, 2022 through June 30, 2023, provides comprehensive information about the system including a description of the retirement plan; investment policies and objectives; financial statements; an actuarial report; and historical and statistical information on active members, annuitants, and benefit payments.

System Highlights

(for the fiscal year ended June 30, 2023)

Active Members *(excludes DROP participants)*

	Tier I	Tier II
Number	13	469
Average Age	51.8	38.8
Average Years' Service	28.4	12.2
Average Annual Salary	\$ 105,913	\$ 70,526

Inactive Vested Members

Number	123
--------	-----

Members Who Retired or Entered DROP in Fiscal 2023

	Age & Service	Disability
Retired Members	30	1
Average Age	56.55	40.0
Average Credited Years' Service	21.45	10.0
Average Monthly Benefit	\$ 3,671	\$1,387

Total Retirees & Beneficiaries *(includes DROP participants, disability recipients, and death-in-service beneficiaries)*

Retired Members and Beneficiaries	775
Average Monthly Benefit	\$ 3,310

Troop Headquarters

Troop "A" 501-618-8282
1 State Police Plaza Drive, Little Rock, AR 72209
Captain Jeff Sheeler - Commander

Troop "B" 870-523-2701
3200 Highway 367 North, Newport, AR 72112
Captain Todd Shaw - Commander

Troop "C" 870-935-7302
2216 Browns Lane Access Rd, Jonesboro, AR 72403
Captain John Carter - Commander

Troop "D" 870-633-1454
3205 North Washington, Forrest City, AR 72335
Captain Phillip Hydron - Commander

Troop "E" 870-247-1483
6816 Princeton Pike, Pine Bluff, AR 71602
Captain David Williams - Commander

Troop "F" 870-226-3713
1237 North Myrtle, Warren, AR 71671
Captain Rick Neill - Commander

Troop "G" 870-777-4641
2501 North Hazel, Hope, AR 71801
Captain Brady Gore - Commander

Troop "H" 479-783-5195
5728 Kelley Highway, Fort Smith, AR 72914
Captain Chris Goodman - Commander

Troop "I" 870-741-3455
5196 US 65 South, Harrison, AR 72601
Captain Wesley Smithee - Commander

Troop "J" 479-754-3096
2700 West Main, Clarksville, AR 72830
Captain Kyle Drown - Commander

Troop "K" 501-767-8550
200 Karen Street, Hot Springs, AR 71901
Captain Scott Joe - Commander

Troop "L" 479-751-6663
1120 W Monroe Ave, Lowell, AR 72745
Captain Scott Russell - Commander



December 1, 2023

Board of Trustees
Arkansas State Police Retirement System
Little Rock, AR 72201

To the Members of the Arkansas State Police Retirement System (ASPRS):

We are pleased to present the *Arkansas State Police Retirement System Annual Comprehensive Financial Report for the Fiscal Year Ended June 30, 2023*. The report is designed to provide a clear and concise picture of the financial conditions of the Arkansas State Police Retirement System.

Accounting System

The Fiscal Year 2023 Annual Report has been prepared to conform to the accounting principles generally accepted in the United States.

The accrual basis of accounting is used to record the assets, liabilities, revenues, and expenses of the ASPRS trust fund. Revenues are recognized in the accounting period in which they are earned, without regard to date of collection, and expenses are recorded when incurred, regardless of when payment is made. Investments are reported at market values determined by the custodial agent. The agent's determination of market value includes, among other things, using pricing services or prices quoted by independent brokers at current exchange rates.

Financial Information

ASPRS is responsible for establishing and maintaining adequate internal control over financial reporting. ASPRS' internal control over financial reporting is designed to provide reasonable assurance that transactions are executed in accordance with management's general or specific authorization and are recorded as necessary to maintain accountability for assets and to permit the preparation of financial statements in accordance with generally accepted accounting principles.

Funding

ASPRS is funded through contributions from the state and investment income. The general financial objective of ASPRS is to establish and receive contributions which, expressed as a percent of active member payroll, will remain approximately level from generation to generation.

Investments

Act 1242 of 2009 effectively merged the ASPRS investment program with that of Arkansas Public Employee Retirement System (APERS) and granted the APERS Board investment authority over ASPRS funds, even though ASPRS and APERS remain separate retirement systems with unique pension plans. The APERS Board has established a policy which requires that the funds be invested in conformity with the authority and limitations found in Arkansas Code Annotated § 24-2-601 et seq., which includes the fiduciary responsibilities under the "prudent investor rule." These laws enable the APERS Board to establish an investment policy based upon certain

investment criteria and allows for delegation of investment authority to professional investment consultants. The Investment Policy Statement outlines the responsibility for the investment of the fund and reflects the degree of risk that is deemed appropriate for the fund. Investment managers are to execute the investment policy in accordance with statutory authority and the policies and respective guidelines of the APERS Board, but they are free to use full discretion within those policies and guidelines. Compliance by the current investment managers is monitored on a continuing basis by the investment consultant and APERS staff. The investment managers for ASPRS are listed in the schedule of Professional Services Providers.

Actuarial Analysis

A pension is well-funded when it has enough assets to meet the future obligations to plan participants. A greater level of funding results in a larger ratio of assets accumulated to the actuarial accrued liability. The advantage of a well-funded plan is that the participants can be assured that enough assets exist to pay all promised benefits to members.

ASPRS' statutory funding objective is to meet long-term benefit promises through contributions that remain approximately level as a percentage of member payroll. According to the actuarial firm, "if the contributions to the system are level in concept and soundly executed, ASPRS will pay all promised benefits when due—the ultimate test of financial soundness." ASPRS has an established Actuarial Funding Policy that targets a funding level of 100%.

The actuarial accrued liability and actuarial funding value of assets of ASPRS as of June 30, 2023, amounted to \$548 million and \$418 million respectively. On a funding value of assets basis, the funded status of the ASPRS was 76% in fiscal year 2023. A detailed discussion of funding and actuarial measures is provided in the Actuarial Section of this report.

Professional Services

ASPRS retains independent consultants to perform professional services that are essential to the trust fund's long-term strength and stability. Actuarial services are provided by Gabriel, Roeder, Smith & Company (GRS); investment consulting is provided by Callan, LLC and Stephens, Inc.; and the annual financial audit is conducted by Arkansas Legislative Audit in accordance with A.C.A. § 24-2-702.

Acknowledgments

This report is the result of the combined efforts of the APERS staff under the direction of the ASPRS Board of Trustees. Its purpose is to provide complete and reliable information as a basis for making management decisions, determining compliance with legal provisions, determining responsible stewardship over the assets contributed by the members and employers.

Respectfully,



Scott Joe, Chair
Arkansas State Police Retirement System
Board of Trustees



Amy Fecher, Executive Secretary
Arkansas State Police Retirement System

Board of Trustees

Captain Scott Joe - Chair

Hot Springs, Active Tier II Member
Expiration of Term - July 1, 2026

Mr. Phillip Milligan - Vice Chair

Fort Smith, Citizen-at-Large
Expiration of Term - July 1, 2025

Ms. Denise Bugos

Bentonville, Citizen-at-Large
Expiration of Term - July 1, 2026

Mr. Donny Underwood

Marion, Citizen-at-Large
Expiration of Term - July 1, 2021

Captain Kyle Drown

Clarksville, Active Tier I Member
Expiration of Term - July 1, 2029

Dr. John Shelnett

Little Rock, Designee of the Chief Fiscal Officer
for the State of Arkansas
Expiration of Term - Ex-Officio

Mr. John Allison

Conway, State Police Commissioner
Expiration of Term - July 1, 2024

Senior Staff

Amy Fecher

Executive Secretary

Carlos Borromeo

Deputy Director of Investments and Finance

Jason Willett

Chief Fiscal Officer

Allison Woods

Deputy Director of Benefits

Ashley Golleher

Deputy Director of Operations

Laura Gilson

General Counsel

Phillip Norton

Director of Information Technology

Jennifer Taylor

Director of Benefits Administration

Jacobia Bates

Director of Public Affairs

Patty Shipp

Assurance Officer

Usha Doolabh

Manager, Investments

Jon Aucoin

Manager, Digital Services

Cheryl Wilburn

Manager, Benefits Operations

Tammy Shadwick

Manager, Human Resources

Shelly George

Manager, Employer Reporting

Professional Service Providers

Custodian Bank

The Bank of New York Mellon
Pittsburgh, PA 15258

Actuary

Gabriel, Roeder, Smith & Co.
Southfield, MI 48076

Investment Consultant

Callan Associates, Inc.
Chicago, IL 60602

Investment Managers

Acadian Asset Management
Boston, MA 02110
AQR Capital Management
Greenwich, CT 06830

Artisan Partners
Milwaukee, WI 53202

Baillie Gifford Overseas Ltd.
Edinburgh, Scotland

Blackstone Alternative Asset Management, LP
New York, NY 10154

Carlyle Property Investors LP
New York, NY 10022

CastleArk Management, LLC
Chicago, IL 60606

Clarion Partners LLC
New York, NY 10169

DoubleLine Capital
Los Angeles, CA 90071

Franklin Templeton Institutional
Coral Gables, FL

Harrison Street Real Estate Partners
Chicago, IL 60606

Heitman America Real Estate
Chicago, IL 60606

Horrell Capital Management
Little Rock, AR 72211

International Farmland Corporation
Kinston, NC 28504

Invesco Real Estate
Dallas, TX 75240

LaSalle Investment Management
San Francisco, CA 94111

Lazard Asset Management
New York, NY 10020

LSV Asset Management
Chicago, IL 60606

MacKay Shields
New York, NY 10105

Mellon Capital
Pittsburgh, PA 15258

Pinnacle Forest Investments, LLC
Little Rock, AR 72211

PGIM, Inc.
Newark, NJ 07102

PGIM U.S. Agriculture
San Francisco, CA 94111

Principal Real Estate Investors LLC
Des Moines, IA 50309

SSI Investment Management
Beverly Hills, CA 90210

Starwood Management LLC
Los Angeles, CA 90025

Stephens Investment Management Group
Houston, TX 77046

TA Associates Realty
Boston, MA 02109

Wellington Management Company
Boston, MA 02210



Financial



ASPRS
ARKANSAS STATE POLICE
RETIREMENT SYSTEM



Management's Discussion and Analysis

This discussion and analysis of the Arkansas State Police Retirement System provides an overview of the System's financial activities for the fiscal year ended June 30, 2023. It is intended to be used in conjunction with the Letter from the Chair of the ASPRS Board and Executive Secretary, and ASPRS financial statements and notes, which begin on page 14 of this report.

This Annual Comprehensive Financial Report reflects the activities of the Arkansas State Police Retirement System as reported in the Statement of Fiduciary Net Position (page 14) and the Statement of Changes in Fiduciary Net Position (page 15). These statements are presented on an accrual basis and reflect all Trust Fund activities as incurred. The Notes to Financial Statements are an integral part of the financial statements and include additional information essential to understanding the basic financial statements. The Required Supplementary Information following the Notes to the Financial Statements provide historical information and additional details considered useful in evaluating the condition of the plan. Investment data in the Financial section is presented at fair value. See the Actuarial section of this report for a detailed discussion of the actuarial value of assets and liabilities and the funded ratio.

Financial Highlights

ASPRS net position restricted for pension benefits increased by \$20.4 million during FY2023. On June 30, 2023 total plan assets were \$427 million. These assets exceeded total liabilities of \$24.7 million, resulting in a net position restricted for pension benefits of \$402.3 million.

- Total additions for the system increased by \$78.8 million in FY2023. The primary reason for this increase in FY2023 additions was the increase in net investment income of \$77.5 million. ASPRS had a solid year with investments with a return of 8.83% in FY2023.
- Benefit payments increased approximately \$5.4 million in FY2023 due to the number of retirees and beneficiaries increasing in FY2023.

The Statement of Fiduciary Net Position

The Statement of Fiduciary Net Position (see page 14) reports the pension trust fund's assets, liabilities, and resulting net position at the end of the fiscal year such that

$$\text{assets} - \text{liabilities} = \text{net position.}$$

It is a snapshot of the financial position of the pension trust fund at that specific time.

The Statement of Changes in Fiduciary Net Position

The Statement of Changes in Fiduciary Net Position (see page 15) reports the pension trust fund's financial transactions that have occurred during the fiscal year such that

$$\text{additions} - \text{deductions} = \text{net change in net position.}$$

It supports the change that has occurred to the prior year's net position value on the Statement of Fiduciary Net Position.

Notes to the Financial Statements

The notes to the financial statements are provided as an integral component of the financial statements to help explain in narrative form some of the more complex or less obvious elements to the statements. Further, the notes provide additional information that is essential for a comprehensive understanding of the system's financial condition and the results of its operations.

- Note 1 provides a general description of the system, including information regarding membership and employers.
- Note 2 summarizes significant accounting policies, including the basis of accounting, management's use of estimates, and other accounting policies.
- Note 3 describes deposits and investment risk.
- Note 4 provides information regarding legally required reserves.
- Note 5 provides information regarding the system's net pension liability.
- Note 6 describes the system's Deferred Retirement Option Plan.

Basic Financial Statements

Statement of Fiduciary Net Position *(as of June 30, 2022 and 2023)*

ASSETS	2023	2022
Cash and Cash Equivalents	\$ 22,088,548	\$ 15,005,884
Receivables	1,717,356	2,622,201
Investments, At Fair Value		
Government Securities	16,323,556	13,165,826
Corporate Securities	174,356,094	157,334,515
International Securities	105,648,373	94,631,629
Core Plus Bond Fund	24,020,567	23,979,117
Real Estate	44,494,314	55,179,029
Diversified Strategies	8,124,653	18,375,047
Timberland	7,472,186	3,834,064
Commercial Loans	30,758	168,717
Total Investments at Fair Value	<u>380,470,501</u>	<u>366,667,945</u>
Securities Lending Collateral Investments, At Fair Value	22,777,621	21,388,235
TOTAL ASSETS	<u>427,054,026</u>	<u>405,684,265</u>
LIABILITIES		
Accounts Payable and Accrued Expenses	579,557	581,403
Investment Purchases Payable	1,360,770	1,705,835
Securities Lending Liability	22,778,585	21,456,278
TOTAL LIABILITIES	<u>24,718,912</u>	<u>23,743,516</u>
NET POSITION RESTRICTED FOR PENSION BENEFITS	<u>\$402,335,114</u>	<u>\$381,940,750</u>

Statement of Changes in Fiduciary Net Position *(for years ended June 30, 2022 and 2023)*

ADDITIONS	2023	2022
Contributions		
Employer	\$ 10,197,986	\$ 8,908,482
Plan Member	54,311	140,796
Supplemental	6,952,517	6,165,687
Court	312,345	449,777
Drivers' License Reinstatement Fees	1,629,988	1,793,447
Motor Vehicle Title Fees	4,838,091	5,235,756
Total Contributions	<u>23,985,238</u>	<u>22,693,944</u>
Investment Income		
Interest	3,675,642	2,638,437
Dividends	3,693,477	4,154,510
Investment Gain/Loss	22,494,777	(53,592,043)
Security Lending Income	1,357,777	92,501
Real Estate Income	2,429,194	2,612,484
Other Investment Income	-	-
Total Investment Income	<u>33,650,867</u>	<u>(44,094,110)</u>
Less: Investment Expense	<u>2,440,363</u>	<u>2,153,379</u>
Net Investment Income	<u>31,210,504</u>	<u>(46,247,489)</u>
Other Additions	4,033	69
Total Additions	<u>55,199,775</u>	<u>(23,553,475)</u>
DEDUCTIONS		
Benefit Payments	34,560,932	29,149,508
Administrative Expenses	244,479	229,348
Total Deductions	<u>34,805,411</u>	<u>29,378,856</u>
NET INCREASE (DECREASE)	<u>20,394,364</u>	<u>(52,932,331)</u>
Net Position Restricted for Pension Benefits		
Beginning of Year	381,940,750	434,873,081
End of Year	<u>\$402,335,114</u>	<u>\$381,940,750</u>

Notes to the Financial Statements

Note 1: Plan Description

General Information

ASPRS is a single-employer, defined benefit pension plan that was established on March 19, 1951 with the passage of Act 311 of 1951. The system provides for the retirement of police officers employed by the Arkansas State Police. The laws governing the operations of ASPRS are set forth in Arkansas Code Annotated (A.C.A.), Title 24, Chapters 2 and 6. Act 1071 of 1997 created a Tier II benefit plan for all police officers hired on or after April 3, 1997.

Effective July 1, 2009, Act 1242 of 2009 transferred the assets of ASPRS to the Arkansas Public Employees' Retirement System (APERS) to hold in trust for ASPRS. Act 1242 of 2009 also states that the Arkansas State Police Trust Fund shall not be treated as segregated funds but shall be commingled with the assets of APERS strictly for investment purposes and that the assets of ASPRS and APERS shall be invested as determined by the Board of Trustees of the Arkansas Public Employees' Retirement System (APERS Board).

Act 1242 of 2009 also created the Arkansas State Police Officers' Tier II Deferred Retirement Option Plan (DRO), and it changed the composition of the Board of Trustees of the State Police Retirement System (ASPRS Board).

Arkansas Code Annotated § 24-6-204 states that the membership of the ASPRS Board shall be composed of seven members as follows:

- One active member enrolled in the Tier I benefits program,
- One active, vested member enrolled in the Tier II benefits program,
- The State Police Commissioner who shall be appointed by the Governor,
- The Chief Fiscal Officer of State or his or her designee, and
- Three citizens at large who shall be appointed by the Governor.

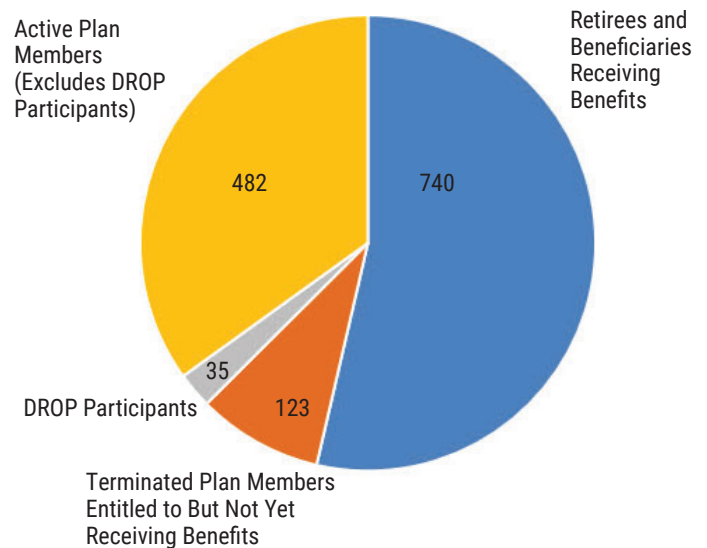
The members of the ASPRS Board are listed on page 10 of this report.

Membership

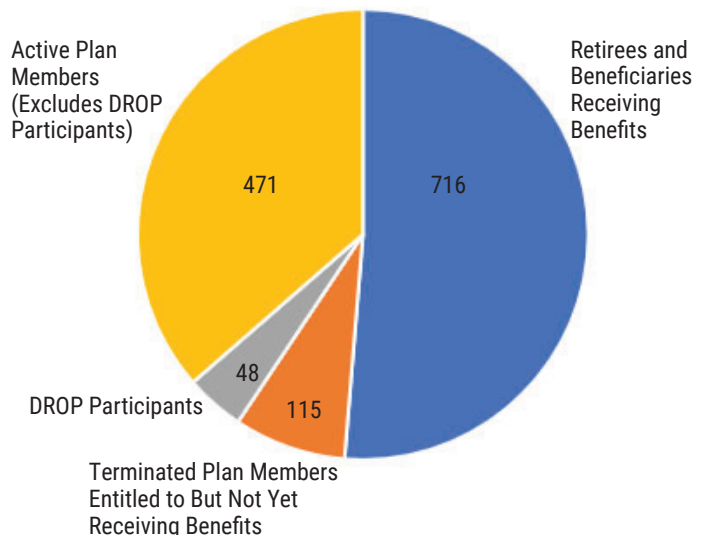
The membership as of the June 30 end of fiscal years 2022 and 2023 were as follows:

Members	2023	2022
Retirees and Beneficiaries Receiving Benefits	740	716
Terminated plan members entitled to but not yet receiving benefits	123	115
DROP Participants	35	48
Active Plan Members (Excludes DROP Participants)	482	471
	<u>1,380</u>	<u>1,350</u>

2023 Membership



2022 Membership



Contributions

As of June 30 in both 2022 and 2023, there were no contributory members of ASPRS. Plan member contributions presented in the financial statements are related to service purchase payments. Contribution provisions are established by state law and may be amended only by the Arkansas General Assembly. Beginning with fiscal year 2022, the statutory employer contribution rate was increased to 26% by Act 415 of the 2021 legislative session.

Additional Revenue

Act 1071 of 1997 provides for a transfer from insurance premium taxes to the State Police Retirement Fund (the ASPRS fund). The ASPRS fund received \$6.95 million of Act 1071 funds in fiscal year 2023 and \$6.17 million in fiscal year 2022. Additional funds are collected from motor vehicle title fees in accordance with Act 718 of 2011. The ASPRS fund received \$4.84 million of Act 718 funds in fiscal year 2023 and \$5.24 million in fiscal year 2022.

Plan Administration

The costs of administering the system are paid out of investment earnings.

Benefits

Benefit provisions are established by state law and found at Arkansas Code Annotated Title 24, Subchapter 6. They may be amended only by the Arkansas General Assembly. Members are eligible for full retirement benefits after meeting minimum age and service requirements. The normal retirement benefit, paid on a monthly basis, is determined based on a formula that uses (a) the member's final average salary and (b) the number of years of credited service.

Increases after Retirement

Retirees will receive a 3% cost of living adjustment (COLA) increase in their benefit each July 1. Eligibility for the COLA requires being retired from July 1 for a full 12 months.

Note 2: Summary of Significant Accounting Policies

Basis of Accounting

The system's accounts and records are maintained using fund accounting principles, and its financial statements are prepared using the accrual basis of accounting. Expenses are recorded when the liability is incurred, revenues are recorded in the accounting period in which they are earned and become measurable, and investment purchases and sales are recorded as of their trade dates. Member and employer contributions are established by statute as a percentage of salaries and are recognized when due, pursuant to legal requirements. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

Use of Estimates

The preparation of the system's financial statements in conformity with accounting principles generally accepted in the U.S. requires the system administrator to make significant estimates and assumptions that affect various data in the report, including the following:

- The net position restricted for pensions at the date of the financial statements
- The net pension liability and other actuarial information presented in Note 5
- The required supplementary information as of the benefit information date
- The changes in fiduciary net position during the reporting period

Estimates may also be involved in formulating disclosures of contingent assets and liabilities at the date of the financial statements. Actual results could differ from these estimates.

Cash and Cash Equivalents

Cash and cash equivalents include demand accounts, imprest accounts, cash in the state treasury, and short-term investment funds (STIF). The STIF accounts are created through daily sweeps of excess cash by the system's custodian bank into bank-sponsored commingled funds that are invested in U.S. Government and agency securities and other short-term investments. The STIF accounts had an average weighted maturity of 90 days or less and are stated at fair value.

Note 3: Deposits and Investments

Deposits

Deposits are carried at cost and are included in “cash and cash equivalents”. Cash and cash equivalents include demand accounts, cash in state treasury, short-term investment funds, and petty cash. As of June 30, 2023, these totals were \$11,835, \$576,110, and \$21,500,603 respectively. State Treasury Management Law governs the management of funds held in the State Treasury (cash in state treasury), and it is the responsibility of the Treasurer of State to ensure the funds are adequately insured and collateralized.

Custodial Credit Risk for Deposits

Custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, the system will not be able to recover deposits or collateral securities. The system’s policy is to place deposits only in collateralized or insured accounts. As of June 30, 2023, the system’s only deposits exposed to potential custodial credit risk were those holding its foreign currency balance, which is detailed in the table “Foreign Currency Risk” on page 26. The system holds foreign currency in banks outside the United States as a result of transactions by international investment managers.

Investments

Arkansas Code Annotated §§ 24-2-601 – 24-2-619 authorizes the Board to have full power to invest and reinvest monies of the system and to hold, purchase, sell, assign, transfer or dispose of any of the investments or proceeds of the investments in accordance with the prudent investor rule. Security transactions and any resulting gains or losses are accounted for on a trade basis. Net investment income includes net appreciation in the fair value of investments, interest income, dividend income, and total investment expense, which includes investment management fees, custodial fees, and all other significant investment-related costs.

Arkansas Code Annotated § 24-2-608 also states that the system shall seek to invest not less than 5% nor more than 10% of the system’s portfolio in Arkansas-related investments. APERS recognizes a legal responsibility to seek to invest in the Arkansas economy while realizing that its primary, legal, and fiduciary commitment is to beneficiaries of the retirement system. As stated in A.C.A. § 24-2-608 (d), “nothing in this section shall in any way limit or

impair the responsibility of a fiduciary to invest in accordance with the prudent investor rule set forth in §§ 24-2-610 – 24-2-619.”

Investments are reported at fair value as determined by the custodian bank. The custodian bank’s determination of fair values includes, among other things, using pricing services or quotes by major independent brokers at current exchange rates as available. The schedule on the following page reflects the fair value of investments.

Statement of Invested Assets

(Assets by type at fair value in dollars as of June 30, 2023)

Category	Base Market Value	ASPRS	APERS
Government Securities	\$ 440,629,119	\$ 16,323,556	\$ 424,305,562
Corporate Securities	4,706,472,708	174,356,094	4,532,116,614
International Securities	2,851,814,194	105,648,373	2,746,165,821
Core Plus Bond Fund	648,397,994	24,020,567	624,377,427
Real Estate	1,201,055,086	44,494,314	1,156,560,772
Diversified Strategies	219,312,431	8,124,653	211,187,778
Timberland	201,700,095	7,472,186	194,227,908
Commercial Loans	830,262	30,758	799,504
	<u>\$10,270,211,888</u>	<u>\$ 380,470,501</u>	<u>\$ 9,889,741,388</u>
Securities Lending Collateral Investments, at Fair Value:			
Commercial Paper	36,752,881	1,361,547	35,391,333
Repurchase Agreements	93,155,864	3,451,052	89,704,812
Floating Rate Notes	450,577,395	16,692,090	433,885,305
Asset Backed Securities	34,360,514	1,272,920	33,087,594
	<u>614,846,653</u>	<u>22,777,609</u>	<u>592,069,044</u>
	<u>\$10,409,684,254</u>	<u>\$388,056,181</u>	<u>\$10,021,628,073</u>

Totals may not add due to rounding

Custodial Credit Risk for Investments

Custodial credit risk for investments is the risk that, in the event of failure of the counterparty to a transaction, the system will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are (a) uninsured, (b) not registered in the name of the government, and (c) held by either the counterparty or the counterparty's trust department or agent but not in the system's name. Arkansas Code Annotated § 24-2-606 does address the custodianship of assets, and the investment policy states that "the custodian bank shall, by nominee agreement, hold any and all securities for the beneficial interest of the APERS fund." As of fiscal year end, there were no investments exposed to custodial credit risk.

Credit Risk for Investments

Credit risk of investments is the risk that the issuer or other counterparty will not fulfill its obligation to the holder of the investment. Credit risk exposure is dictated by each investment manager's agreement. This credit risk is measured by the credit quality of investment in debt securities as described by nationally recognized statistical rating organizations. Each portfolio is managed in accordance with investment guidelines that are specific as to permissible credit quality ranges, exposure levels within individual security quality rating tiers, and the average credit quality of the overall portfolio.

The schedule on the following page indicates the system's exposure to credit risk for investments.

The System's Exposure to Credit Risk

Moody's Quality Ratings *(in dollars as of June 30, 2023)*

Moody's Rating	Aaa	Aa	A	Baa	Ba	B	Caa or below	Not Rated	Base Market Value
Total	423,691,714	20,127,455	90,804,800	288,681,262	67,701,967	28,868,269	22,224,948	1,383,325,578	2,325,425,997

S&P's Quality Ratings *(in dollars as of June 30, 2023)*

S&P Rating	AAA	AA	A	BBB	BB	B	CCC or below	Not Rated	Base Market Value
Totals	8,449,614	413,224,931	88,407,092	302,943,057	90,760,611	28,100,680	22,700,792	1,370,839,219	2,325,425,997
Securities Lending Collateral	32,060,618.57	180,995,020.90	249,961,767.58	-	-	-	554,895.36	149,943,847.29	613,516,149.70

All figures are APERS and ASPRS combined.

All figures are APERS and ASPRS combined.

Concentration of Credit Risk for Investments

The concentration of credit risk is the risk of loss attributed to the magnitude of the system's investment in a single issuer (not including investments issued or guaranteed by the U.S. government or investments in mutual funds or external investment pools). The system has a formal investment policy for concentration of credit risk. None of the system's investments in any one issuer (other than those issued or guaranteed by the U.S. government) represented more than 5% of total investments.

Interest Rate Risk for Investments

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of investments. Investments can be highly sensitive

to changes in interest rates due to their terms or characteristics. Interest rate risk is the greatest risk faced by an investor in the debt securities market since the price of a debt security will often move in the opposite direction of the change in interest rates.

The system's external fixed income investment managers use the measurement of effective duration to mitigate the interest rate risk of the fixed income investments. Each fixed income investment manager monitors and reports the effective duration monthly. The effective duration of the investment portfolio is required to be +/- 10% of the benchmark's duration. The benchmark for the U.S. fixed income markets is the Barclays Capital U.S. Aggregate Bond Index.

The system had the following debt security investments and maturities:

Debt Security Investments and Maturities *(in dollars as of June 30, 2023)*

	Market Value	Less than 1	1 - 5	6 - 10	More than 10	Fund - No Maturities
Government Securities	\$ 409,600,838	\$ 7,845,302	\$ 26,427,079	\$ 56,751,142	\$ 318,577,315	\$ 0
Corporate Securities	932,567,715	39,141,977	419,579,346	173,151,368	300,695,024	0
International Securities	175,157,905	982,183	83,250,351	49,241,151	41,684,219	0
Floating Rate Fund	20,866,048	0	0	0	0	20,866,048
Core Plus Bond Fund	648,397,994	0	0	0	0	648,397,994
Commercial Loans	830,262	0	625,062	205,200	0	0
Municipal Bonds	1,333,070	0	0	0	1,333,070	0
Co-Mingled Funds	8,827,546	0	0	0	0	8,827,546
High Yield Income Fund	127,844,619	127,844,619	0	0	0	0
	<u>\$ 2,325,425,997</u>	<u>\$ 175,814,081</u>	<u>\$ 529,881,838</u>	<u>\$ 279,348,861</u>	<u>\$ 662,289,629</u>	<u>\$ 678,091,588</u>
Securities Lending Collateral	\$ 613,516,150	\$ 576,629,966	\$ 36,331,288		554,895	
	<u>\$ 2,938,942,147</u>	<u>\$ 752,444,047</u>	<u>\$ 566,213,126</u>	<u>\$ 279,348,861</u>	<u>\$ 662,844,524</u>	<u>\$ 678,091,588</u>

All figures are APERS and ASPRS combined.

Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment. The system's currency risk resides within the international equity investments as well as within the fixed income investments and the fixed income managers. The system's policy is to allow the external investment managers to decide

what action to take regarding their respective portfolio's foreign currency exposure using currency forward contracts. The system has a formal investment policy for foreign currency risk which limits foreign currency exposure to 10% of the investment manager's respective portfolio.

Foreign Currency Risk *(as of June 30, 2023)*

Currency	Fair Value
Australian Dollar	\$ 6,757,018
Brazilian Real	\$15,780,271
British Pound Sterling	\$267,628,854
Canadian Dollar	\$90,389,959
Chinese Yuan Renminbi	\$65,143,115
Euro Currency	\$574,922,345
Hong Kong Dollar	\$28,872,258
Indian Ruphia	\$11,885,532
Israeli Shekel	\$29,871,093
Japanese Yen	\$178,582,949
Mauritian Rupee	\$2,166,818
Mexican New Peso	\$11,435,575
Norwegian Krone	\$812,209
New Zealand Dollar	\$8,348,345
Singapore Dollar	\$21,572,352
South Korean Won	\$55,321,806
Swedish Krone	\$37,292,183
Swiss Franc	\$197,204,468
Taiwan Dollar	\$22,719,921
Thailand Baht	\$135,075
	<hr/>
	\$ 1,626,842,149

All figures are APERS and ASPRS combined.

Asset-Backed Securities

Asset-backed securities (ABSs) are bonds or notes backed by loan paper or accounts receivable originated by banks, credit card companies, or other credit providers. The system's ability to recover the amount of principal invested in these securities depends on the performance and quality of the trust assets.

Mortgage-Backed Securities

A mortgage-backed security (MBS) is a type of asset-backed security that is secured by a mortgage or collection of mortgages. MBSs depend on the underlying pool of mortgage loans to provide cash flow to make principal and interest payments on the security to its holders. The payments are usually periodic, similar to coupon payments. MBSs are subject to credit risk, prepayment risk, and extension risk.

A collateralized mortgage obligation (CMO) is an MBS that comprises classes of bonds created by prioritizing the cash flows of the underlying mortgage pool. CMOs may be collateralized by whole-loan mortgages, mortgage pass-through securities, or stripped mortgage-backed securities.

The system invests in MBSs and CMOs for diversification and to enhance fixed income returns. These instruments are reported at fair value in the Statement of Fiduciary Net Position.

Corporate Bonds

Corporate bonds are a debt security issued by a corporation. The backing for the bond is usually the payment ability of the company, which is typically money to be earned from future operations.

Convertible Corporate Bonds

Convertible bonds convey an option to the bondholders to be exchanged for another asset, generally a fixed number of shares of common stock at a pre-stated price.

Pooled Funds

Pooled funds are funds from many individual investors that are aggregated for the purposes of investment and benefit from economies of scale. The system could be indirectly exposed to credit and market risks associated with forward currency contracts to the extent that these pooled funds hold forward currency contracts for purposes of managing exposure to fluctuations in foreign exchange rates.

Securities Lending

Arkansas Code Annotated § 24-2-602 and the Board's investment policy permit the system to participate in a securities lending program to augment investment income. The system lends its securities to brokers-dealers and other entities with a simultaneous agreement to return the collateral for the same securities in the future.

Derivative Instruments

The system adheres to *GASB Statement No. 53: Accounting and Financial Reporting for Derivative Instruments*, which addresses the recognition, measurement, and disclosure of information regarding derivative instruments entered into by state and local governments.

Derivative instruments are financial contracts or agreements whose values depend on the values of one or more underlying assets, reference rates, or financial indexes. Derivative instruments include futures contracts, forward contracts, swap contracts, options contracts, and forward foreign currency exchange. APERS, through its external investment managers, can hold such instruments.

APERS does comply with *GASB No. 53* and will disclose its exposure to derivative instruments if there is exposure. APERS had no exposure to any *GASB No. 53* derivative instruments at June 30, 2023.

Foreign Currency Forward Contracts

A foreign currency forward is a contractual agreement between two parties to pay or receive specific amounts of foreign currency at a future date in exchange for another currency at an agreed upon exchange rate. Forward commitments are not standardized and carry credit risk due to the possible nonperformance by one of the counterparties. The maximum potential loss is the aggregate face value in U.S. dollars at the time the contract was opened. These transactions are entered in order to hedge risks from foreign currency rate fluctuation and to facilitate trade settlement of foreign security transactions. Forwards carry foreign currency risk resulting from adverse fluctuations in foreign exchange rates.

Foreign Currency Forwards *(in dollars as of June 30, 2023)*

	Pay	Receive	Notional Value	Market Value	Unrealized G/L
Canadian Dollar	CAD	USD	(70,062)	(70,208)	(146)
U.S. Dollar	USD	GBP	(694,309)	694,450	141
U.S. Dollar	USD	GBP	(939,132)	946,142	7,010
			<u>(1,703,503)</u>	<u>1,570,384</u>	<u>7,006</u>

All figures are APERS and ASPRS combined.

Financial Futures

A financial future is an agreement to purchase or sell a specific amount of an asset at a specified delivery or maturity date for an agreed upon price. These derivative securities are used to improve

yield, adjust duration of the portfolio, circumvent changes in interest rates, or to replicate an index. Futures contracts are standardized and traded on organized exchanges, thereby reducing credit risk.

Financial Futures *(in dollars as of June 30, 2023)*

Futures Contract	Expiration	Notional Value	Fair Value	Unrealized Gain/(Loss)
U.S. 2-year Treasury Note	Sept 2023	\$ (40,114,641)	\$ (39,652,031)	\$ 462,610
U.S. 5-year Treasury Note	Sept 2023	2,816,438	2,784,438	(32,000)
U.S. 10-year Treasury Note	Sept 2023	69,048,835	68,257,500	(791,335)
U.S. 10-year Ultra Treasury Note	Sept 2023	40,710,437	40,387,188	(323,249)
U.S. Long Bond Treasury	Sept 2023	15,132,182	15,101,844	(30,338)
U.S. Ultra Bond Treasury	Sept 2023	24,193,771	24,246,938	53,167
		<u>\$ 111,787,021</u>	<u>\$ 111,125,875</u>	<u>\$ (661,146)</u>

All figures are APERS and ASPRS combined.

Fair Value Measurements

The Arkansas Public Employees Retirement System categorizes its fair value measurements within the fair value hierarchy by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset and give the highest priority to unadjusted quoted prices in active markets for identical assets of liabilities (Level 1 measurements) and the lower priority to unobservable inputs (Level 3 measurements).

- Level 1 – Unadjusted quoted prices for identical instruments in active markets.
- Level 2 – Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs are observable.
- Level 3 – Valuations derived from valuation techniques in which significant inputs are unobservable.

Investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy.

In instances where inputs used to measure fair value fall into different levels in the fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. The system assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each asset or liability. The table(s) on the following pages shows the fair value leveling of the investments for the system.

Assets classified in Level 1 of the fair value hierarchy are valued directly from a predetermined primary external pricing vendor. Assets classified in Level 2 are subject to pricing by an alternative pricing source due to lack of information available by the primary vendor. Real estate, timberland, and partnership assets classified in Level 3, due to lack of an independent pricing source, are valued using an internal fair value as provided by the investment manager.

The categorization of investments within the hierarchy is based upon the pricing transparency of the instrument(s) and should not be perceived as the particular investment's risk.

Investments and Derivative Instruments Measured at Fair Value

(in dollars as of June 30, 2023)

	Fair Value	Level 1	Level 2	Level 3
Investments At Fair Value				
U.S Domestic Equities	\$87,970,362	\$87,970,362	\$-	\$-
Convertible Securities	\$13,613,875	\$674,963	\$12,938,912	\$-
Preferred Securities	\$774,934	\$699,573	\$75,361	\$-
International Equities	\$66,034,595	\$66,034,595	\$-	\$-
Convertible Securities	\$1,652,546	\$-	\$1,652,546	\$-
Preferred Securities	\$6,503	\$-	\$6,503	\$-
Fixed Income	\$4,836,353	\$-	\$4,836,353	\$-
Domestic Fixed Income	\$29,913,795	\$-	\$29,913,795	\$-
Global Bond Fund	\$327,025	\$327,025	\$-	\$-
Floating Rate Fund	\$773,004	\$773,004	\$-	\$-
U.S. Government Securities	\$6,971,279	\$6,971,279	\$-	\$-
Futures	\$(24,493)	\$(24,493)	\$-	\$-
Corporate Bonds	\$-	\$-	\$-	\$-
Loans	\$30,758	\$-	\$-	\$30,758
Total Investments	\$212,880,537	\$163,426,308	\$49,423,471	\$30,758
Securities Lending Collateral Investments, at Fair Value				
Commercial Paper	\$1,370,089	\$-	\$1,370,089	\$-
Asset Backed Securities	\$1,280,905	\$-	\$1,280,905	\$-
Floating Rate Securities	\$16,796,804	\$-	\$16,796,804	\$-
Total Securities Lending Collateral	19,447,798	\$-	\$19,447,798	\$-
Total Investments Measured at Fair Value	\$231,143,645	\$164,234,885	\$66,740,043	\$168,718
Investments Measured at the Net Asset Value (NAV)				
High Yield Core Fund	\$39,414	\$39,414.34		
Defensive Bond Fund	\$1,674,799			\$1,674,799.35
Domestic Equity Index Funds	\$43,542,611			43,542,611
Core Plus Bond Fund	\$24,210,654	\$39,414		\$24,171,239.78
Timberland	\$3,526,911			
Global Equity Pooled Funds				
MCM REIT Index	\$433,279			
MCM ACWI ex-US Index	\$22,633,843			
Acadian	\$6,984,980			\$6,984,980.20
Franklin Templeton	\$5,757,361	\$5,757,361		
Core Real Estate				
Invesco Core	\$21,421,557			
Heitman Core	\$13,523,975			
Value Add/Real Estate				
Heitman Value Add	\$1,795,700			
TA Fund X	\$309			
TA Fund XI	\$871,296			
TA Fund XII	\$3,801,380			
LaSalle Fund Fund VI	\$206,827			
LaSalle Fund Fund VII	\$1,056,102			
Harrison Street VIII	\$1,662,987			
Starwood SOF XII	\$617,060			
Clarion	\$3,051,629			
Agriculture/Farmland				
PGIM Agriculture	\$1,409,665			
IFC	\$1,965,421			
Diversified Strategies				
Blackstone	\$8,175,617			
Total Investments Measured at the NAV	168,323,964			

Investments classified as level 3 in the preceding table are unobservable, meaning that the assets lack an independent pricing source. Values are provided by the investment manager or an external pricing source such as an independent appraiser.

Investments Measured at the Net Asset Value

The fair value of investments that are organized as commingled funds or limited partnerships have no readily ascertainable fair value. The value is determined by using the net asset value per share or its equivalent. Commingled fund values are based on each investor's proportionate share of the total underlying assets in the fund less any liabilities for client withdrawals, investment purchases or other accrued expenses. Limited partnership values are based on the capital account balance the general partner reports at the end of each reporting period, adjusted by subsequent contributions, distributions,

management fees, and changes in values of foreign currency and published market prices for certain securities. Even though the limited partnerships and commingled funds issue annual financial statements audited by independent auditors, the year-end for the state and these entities do not always agree. There are inherent uncertainties in estimating fair values for these types of investments, and it is possible that the estimates will change in the near-term or the subsequent sale of assets will be different from the reported net asset value. With certain exceptions, mainly the equity and the fixed income funds, these investments cannot be redeemed, or, have certain restrictions regarding redemption. The real estate investments distributions are through the liquidation of the underlying assets or net operating cash flows. Each investment has a different redemption frequency and notice period as noted in the following table:

Investments Measured at the Net Asset Value (in dollars as of June 30, 2023)

	Fair Value	Strategy Type	Fund Life of Non-redeemable mandates	Unfunded Commitments
High Yield Core Fund	\$24,210,654	Active High Yield Fixed Income	N/A	none
Defensive Bond Fund	\$1,674,799	Income Oriented	N/A	none
Domestic Equity Index Funds	\$43,542,611	S & P 500 Index	N/A	none
Core Plus Bond Fund	\$24,210,654	Active Global Fixed Income	N/A	none
Timberland	\$3,526,911	Timber	N/A	none
International Equity Pooled Funds				
MCM REIT Index	\$433,279	Global Real Estate securities	N/A	none
MCM ACWI ex-US Index	\$22,633,843	International Equities	N/A	none
Acadian	\$6,984,980	International Equities	N/A	none
Franklin Templeton	\$5,757,361	International Equities	N/A	none
Core Real Estate				
Invesco	\$21,421,557	Core Real Estate	N/A	none
Heitman	\$13,523,975	Core Real Estate	N/A	none
Value Add Real Estate				
Heitman Value Partners IV	\$1,795,700	Value Add Real Estate	N/A	\$200,173
TA Fund X	\$309	Value Add Real Estate	N/A	none
TA Fund XI	\$871,296	Value Add Real Estate	N/A	none
TA Fund XII	\$3,801,380	Value Add Real Estate	N/A	\$-
TA Fund XIII	\$-	Value Add Real Estate	N/A	\$2,795,880
LaSalle Fund Fund VI	\$206,827	Value Add Real Estate	N/A	
LaSalle Fund Fund VII	\$1,056,102	Value Add Real Estate	N/A	\$-
Harrison Street Fund VIII	\$1,662,987	Value Add Real Estate	N/A	\$404,970
Starwood SOF XII	\$617,060	Value Add Real Estate	N/A	\$2,236,704
Clarion LIT Fund	\$3,051,629	Value Add Real Estate	N/A	\$-
Principal Enhanced Fund	\$-	Value Add Real Estate	N/A	\$3,168,664
Carlyle Property	\$-	Value Add Real Estate	N/A	\$3,168,664
Agriculture/Farmland				
PGIM Agriculture	\$1,409,665	Agriculture/Farmland	N/A	\$458,597
International Farmland	\$1,965,421	Agriculture/Farmland	N/A	\$-
Diversified Strategies:				
AQR Global Risk Premium	\$-	Risk Premia	N/A	none
Newton Global Real Return	\$-	Global Real Return	N/A	none
Blackstone	\$8,175,617	Fund of Funds	N/A	none
Total	\$192,534,618			\$9,591,805

Redemption Frequency (if currently eligible)	Redemption Notice Period	Other Redemption Restrictions	Restriction Time Remaining
monthly	T + 3	N/A	N/A
daily	T + 1	N/A	N/A
daily	T + 3	N/A	N/A
daily	T + 3	N/A	N/A
none	N/A	N/A	partnership terminates in December 2027
daily	T + 1	N/A	N/A
daily	T + 1	N/A	N/A
daily w 10day notice	T + 1	N/A	N/A
daily	T + 1	N/A	N/A
quarterly	T + 45	N/A	N/A
quarterly	T + 90	N/A	N/A
7-year lock up	N/A	N/A	the lock up period starts on the day of the last capital call
7-year lock up	N/A	N/A	currently in capital redistribution phase
7-year lock up	N/A	N/A	currently in capital redistribution phase
7-year lock up	N/A	N/A	the lock up period starts on the day of the last capital call
7-year lock up	N/A	N/A	the lock up period starts on the day of the last capital call
7-year lock up	N/A	N/A	currently in capital redistribution phase
7-year lock up	N/A	N/A	currently in capital redistribution phase
7-year lock up	N/A	N/A	the lock up period starts on the day of the last capital call
7-year lock up	N/A	N/A	the lock up period starts on the day of the last capital call
7-year lock up	N/A	N/A	the lock up period starts on the day of the last capital call
7-year lock up	N/A	N/A	the lock up period starts on the day of the last capital call
7-year lock up	N/A	N/A	the lock up period starts on the day of the last capital call
open end w/ 2-year lock up	N/A	N/A	the lock up period starts on the day of the last capital call
open end w/ 2-year lock up	N/A	N/A	the lock up period starts on the day of the last capital call
weekly and monthly	T + 2	N/A	N/A
daily	T + 3	N/A	N/A
last day of each quarter	1yr; 2yrs; 3yrs; >3yrs	55% liquidity; then 20%; then 15%; then 10%	N/A

High Yield Core Fund

The High Yield Active Core philosophy is centered on the belief that the best risk-adjusted returns and, ultimately, the best absolute returns are generated by a strategy of yield capture and error avoidance.

Defensive Bond Fund

The investment objective is to exploit different sources of return available in high yield corporate securities in a way that generates risk-adjusted returns superior to those available from conventional high yield securities. The investment strategy is based on the assumption and observation that numerous market inefficiencies exist throughout the capital markets (particularly in the high yield bond markets) and that the prudent, active and systematic exploitation of these inefficiencies can generate returns consistent with these objectives.

Domestic Equity Index Funds

This is a Standard and Poor's 500 (S&P 500) Index fund.

Core Plus Bond Fund

The Core Plus Fixed Income strategy seeks excess return from multiple sources, including sector allocation and subsector and security selection. Duration, yield curve, and currency positioning is moderate. The largest component of the Core Plus Fixed Income risk budget is allocated to portfolio strategies that have consistently generated the highest return for the lowest unit of risk over time, such as sector allocation and subsector security selection. The Core Plus Fixed Income portfolios may emphasize spread product in the sector allocation process and therefore may hold larger-than-benchmark allocations to corporate bonds, structured product, high yield bonds, and emerging markets debt. As a result, the strategy would likely outperform in a 'risk on' environment where corporate bonds, for example, are outperforming. The reverse would also likely be true. The Core Plus Fixed Income portfolios take an actively-managed, relative-value driven approach. The strategy is expected to perform best in markets with excess spread dislocations that it can capitalize on through relative value trading.

Timberland

An objective of a timber investment is to provide the fund with diversification from traditional asset classes. The goal of the timber investment is to get a stable core-type return with very low or little volatility.

International Equity Pooled Funds

- The Bank of New York Mellon Employee Benefit Daily Valued Non-Securities Lending Real Estate Investment Trust Index Fund— This REIT Index Fund seeks to match the performance and the characteristics of the Dow Jones U.S. Select REIT Index which tracks the performance of publicly traded REITs and REIT-like securities and designed to serve as a proxy for direct real estate investments.
- Bank of New York Mellon All Country World Index ex-US – The MSCI ACWI ex-US Index captures large and mid-cap representation across 22 of 23 Developed Markets (DM) countries (excluding the U.S.) and 24 Emerging Markets (EM) countries. With 2,166 constituents, the index covers approximately 85% of the global equity opportunity set outside the U.S.
- Acadian All Country World ex-US Small Cap – The Acadian All Country World ex-US Small Cap strategy employs a combination of top-down and bottom-up multi-factor models to construct the strategy. The top-down consists of value, growth, momentum, volatility, and macro factors. The bottom up drives 80% of the process.

Real Estate

This asset class provides diversification to the total portfolio and strives to reduce total fund volatility while also enhancing the total return of the portfolio. Real estate has a low, and in some cases, negative, correlation with other major investment asset classes. The following are the strategies that comprise the Real Estate asset class and are explained in greater detail.

Core Real Estate

This asset class provides diversification to the total portfolio and strives to reduce total fund volatility while also enhancing the total return of the portfolio. Real estate has a low, and in some cases, negative, correlation with other major investment asset classes. The following are the strategies that comprise the Real Estate asset class and are explained in greater detail.

- Heitman America Real Estate Trust (HART) – The HART strategy creates a high-quality, low-risk portfolio of stabilized, income-producing assets diversified by property type and

economic exposure through acquiring assets in infill locations within major metropolitan areas, focusing on strong site attributes such as proximity to amenities and transportation networks, and ensuring that assets are well constructed with features that will appeal to tenants over long periods of time.

Value Added Real Estate

- Heitman Value Partners IV (“HPV IV”) is the fourth offering in Heitman’s North American value-add series. It is a closed-end, commingled fund that will pursue a diverse set of real estate opportunities with value-added business plans. The objective is to provide investors with attractive risk-adjusted returns. The strategy seeks to benefit from Heitman’s extensive research, real estate, and capital markets expertise to identify emerging investment opportunities and trends before they are fully appreciated by the broader market. The Fund will execute investment strategies that capitalize on those opportunities.
- TA Realty Funds X, XI, XII and XIII – TA Realty has managed value-add, commingled real estate funds for approximately 30 years. They have investments in 35 markets, and four property types (office, industrial, multifamily, and retail). The firm has developed and refined a consistent approach focused on creating diversified real estate portfolios that can generate strong cash flow, benefit from an intensive asset management approach, and result in the long-term creating of value of the life of the fund(s).
- LaSalle Funds VI and VII – The Funds pursue non-core properties that exhibit strong fundamentals and are expected to generate both income and appreciation. The sectors focused upon are office, multifamily, retail, industrial, and specialty.
- Harrison Street Fund VIII – The Fund acquires, develops, and/or redevelops assets in the education, healthcare, life science, and storage sectors. The majority of the return is anticipated to be generated through appreciation.
- Starwood Distressed Opportunity Fund XII – The strategy pursues distressed investment opportunities which are expected to arise from economic disruptions. Investments will be made across multiple sectors, including

multifamily, affordable housing, hotels, office, and industrial. The Fund will invest primarily in the United States and Europe. The fund will pursue both debt and equity investments, including the acquisition of distressed or non-performing loans.

- Clarion Partners Lion Industrial Trust – This is a \$26 billion open-end industrial fund. It is one of the largest private industrial funds in the U.S. and one of the few “pure-play.” The strategy is to invest in warehouse/distribution facilities that appeal to companies focused on e-commerce, logistics, and supply-chain management, with an emphasis on large core industrial markets throughout the United States.
- Principal Enhanced Property Fund – This is an open-end, commingled fund sponsored and managed by Principal Real Estate Investors. The features and objectives of the Fund include: pursues a nationally diversified portfolio of high-quality assets, pursues an “enhanced” or “core plus” investment strategy, and provides market competitive total return.
- Carlyle Property Investors – This U.S. focused core-plus fund has its focus on sectors where accelerating demographic trends drive demand. The fund objectives: target investments with a Core+ return profile, seek attractive property rent and NOI growth, seek to generate attractive levels of income and quarterly distributions, and construct a highly diversified portfolio by sector and geography.

Agriculture / Farmland

- PGIM U.S. Agriculture Fund – PGIM manages \$2 billion in assets and over 173,000 acres under management. PGIM began investing on behalf of investors in 1989. PGIM seeks to build diversified portfolios of assets with good quality soils and water security located in microclimates with favorable growing conditions. Targeted investments typically fall within one of the following investment themes: healthier lifestyles, Farm Tech Efficacies and Higher productivity, competitive advantage/scale, and opportunistic.
- International Farm Corporation Core Farmland Fund - This fund seeks to generate stable income and attractive risk-adjusted financial returns. The strategy has a lower correlation to other

asset classes, has a lease strategy that reduces risk, and seeks long-term appreciation. The strategy may enable food sourcing solutions for core fund and IFC growers as well.

Diversified Strategies

This asset class provides diversification to the total portfolio and strives to reduce total fund volatility while also enhancing the total return of the portfolio. The following are the strategies that comprise the Diversified Strategies asset class and are explained in greater detail:

- **Global Risk Premium Tactical Fund (GRPT)** – The AQR Global Risk Premium Tactical Fund seeks to efficiently deliver exposure to a broadly diversified set of global risk premia. In many institutional portfolios, equity risk is the predominant risk, a concentration driven by the need for high expected return that cannot be satisfied in a traditionally constrained, well-diversified portfolio. Rather than diversifying by capital, this strategy seeks to diversify based on risk across global equities, global nominal bonds, inflation sensitive assets, and credit/default related assets. Starting from this strategic risk-parity base, GRPT then employs modest tactical tilts across sub-sectors and across individual exposures, attempting to exploit temporary opportunities which may arise within markets. Following basic financial theory, AQR designed its Risk Parity strategies based on what they believe to be the most optimal liquid portfolio of global market betas, and AQR offers that same portfolio at various levels of leverage to target a desired amount of risk as approximated by ex-ante volatility. AQR's approach employs modest leverage to scale up a lower-risk, broadly-diversified portfolio.
- **Newton Global Real Return (US\$)** – Newton's global real return US\$ strategy is an actively managed, unconstrained, multi-asset strategy, which aims to achieve a return of one-month USD LIBOR +4 % p.a. over rolling five-year periods. The strategy seeks to add value through security selection and asset type flexibility and it also has an emphasis on capital preservation. The strategy is long only, does not use leverage or short securities and is daily valued.

- **Blackstone (Fund of Funds)** – The system hired Blackstone to manage a fund-of-funds strategy. As the name suggests Blackstone invests APERS' funds in other hedge funds. The number of funds that APERS invests in varies on market conditions. The types of strategies that are contained within APERS' portfolio also vary. For full disclosure purposes on June 30 there were fundamental equity strategies, event driven strategies, fundamental credit strategies, credit trading strategies, distressed credit strategies, RMBS strategies, structured ABS strategies, multi-strat strategies, commodity strategies, macro rates strategies, thematic macro strategies, quantitative strategies, CTA strategies, and special situation strategies in the portfolio.

Note 4: Legally Required Reserves

- The Employers' Accumulation Account accumulates employers' contributions to be used in providing the reserves required for transfer to the Retirement Reserve Account as members retire or become eligible for disability benefits.
- The Retirement Reserve Account is the account to which member contributions, interest on those contributions, and employer contributions are transferred upon member retirement.
- The Deferred Annuity Account is the amount set up to cover estimated retirement benefits to inactive vested members who are not currently receiving benefit payments.

As a by-product of achieving level contribution financing, actuarial accrued liabilities usually become increasingly well funded over a period of years. Funded ratios in the 70% to 90% range are common in public sector retirement plans.

The reserve strength of APERS remains strong both by absolute and relative measures. Sufficient assets were available to pay estimated retirement benefits applicable to retired individuals or beneficiaries currently receiving benefits and inactive vested individuals who are not currently receiving benefits.

Reserve Balances* (as of June 30, 2023)

Member Deposit Account Reserve	\$ 535,885
MDA Interest Reserve	7,077.94
Employer Accumulation Account	78,605,069.76
Retirement Reserve Account	310,261,464.01
DROP Reserve Account	6,871,968
Deferred Annuity Reserve	6,052,554
Outlawed Warrants Reserve	1,095
TOTAL	\$ 402,335,114

* Before recommended actuarial transfers. Totals may not add due to rounding.

Asset Class	Current Allocation	Long-Term Expected Real Rate of Return
Broad Domestic Equity	37%	6.19%
International Equity	24%	6.77%
Real Estate	16%	3.34%
Absolute Return	5%	3.36%
Domestic Fixed	18%	1.79%
Total	100%	
Total Real Rate of Return		4.94%
Plus: Price Inflation - Actuary's Assumption		2.50%
Less: Investment Expenses (Passive)		0.00%
Net Expected Return		7.44%

Note 5: Net Pension Liability

The components of the net pension liability of the system at June 30, 2023 were as follows:

Total Pension Liability	\$551,397,552
Fiduciary Net Position	\$402,335,114
Net Pension Liability	\$149,062,438
Fiduciary Net Position as a Percentage of Total Pension Liability	72.97%

Long-Term Expected Return on Plan Assets

The system's policy in regard to the allocation of its invested assets was established by the Board and is reviewed at least annually to determine if the asset allocation is consistent with an acceptable level of risk and volatility.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the current asset allocation percentage and by adding expected price inflation. Best estimates of arithmetic real rates of return for the 10-year period from 2020 to 2029 were based upon capital market assumptions provided by the plan's investment consultants. For each major asset class that is included in the pension plan's current asset allocation as of June 30, 2023, these best estimates are summarized in the following table from 2020 to 2029, were based upon capital market assumptions provided by the plan's investment consultant(s). For each major asset class that is included in the pension plan's asset allocation as of June 30, 2020, these best estimates are summarized in the following table:

Discount Rate

A single discount rate of 7.00% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 7.00%. The projection of cash flows used to determine this single discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the Net Pension Liability

The following presents the net pension liability of the system, calculated using the discount rate of 7.00%, as well as what the system's net pension liability would be if it were calculated using a discount rate that is one percentage point lower (6.00%) or one percentage point higher (8.00%) than the current rate:

1% Decrease	Current Discount Rate	1% Increase
6.00%	7.00%	8.00%
\$217,805,521	\$149,062,438	\$92,141,569

Note 6: Deferred Retirement Option Plan

A Deferred Retirement Option Plan (DROP) is available to members of the System as authorized by A.C.A. 24-4-801 – 24-4-806. In lieu of terminating employment and accepting a retirement benefit under the System, any member who has at least 30 years of credited service, which includes reciprocal from another system, can elect to participate in the DROP. The DROP allows a member to defer the receipt of retirement benefits for a maximum of seven years. During that time, a percentage of a member’s chosen benefit is deposited into an account that accrues interest at a rate of 3.25% annually. The System had a balance of \$6,871,968 in the DROP reserve as of June 30, 2023.

Required Supplementary Information

Schedule of Employer Contributions *(dollars in millions)*

Years Ended June 30	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Employee Payroll	Actual Contributions as a % of Covered Payroll
2014	14.0	19.5	(5.5)	29.1	67.01%
2015	14.2	19.8	(5.6)	29.9	66.22%
2016	14.3	19.7	(5.4)	29.4	67.01%
2017	14.1	20.0	(5.9)	29.1	68.73%
2018	15.2	21.0	(5.8)	30.0	70.00%
2019	15.6	21.3	(5.7)	30.3	70.30%
2020	16.9	21.9	(5.0)	33.3	65.77%
2021	16.7	22.8	(6.1)	33.6	67.86%
2022	15.9	22.7	(6.8)	32.8	69.21%
2023	\$ 18.3	\$ 24.0	\$ (5.7)	\$ 37.7	63.66%

Schedule of the Net Pension Liability

FY Ending June 30	Total Pension Pension Liability	Fiduciary Net Position	Net Pension Liability	Fiduciary Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2014	\$385,645,392	\$277,201,968	\$108,443,424	71.88%	\$28,548,873	\$379.85%
2015	403,202,550	279,657,570	123,544,980	69.36	29,929,358	412.79
2016	413,882,894	272,920,012	140,962,882	65.94	29,448,593	478.67
2017	437,870,023	299,525,117	138,344,906	68.41	29,076,764	475.79
2018	446,878,220	324,938,251	121,939,969	72.71	29,593,145	412.05
2019	458,133,785	337,739,012	120,394,773	73.72	30,287,691	397.50
2020	476,569,897	338,183,678	138,386,219	70.96	33,311,093	415.44
2021	495,913,550	434,873,081	61,040,469	87.69	33,585,266	181.75
2022	504,594,302	381,940,750	122,653,552	75.69%	32,757,302	374.43%
2023	\$551,397,552	\$402,335,114	\$149,062,438	72.97%	\$37,711,310	395.27%

Schedule of Investment Returns

(annual money-weighted rate of return, net of investment expense, for years ended June 30)

2014	18.97%
2015	2.28%
2016	(0.06)%
2017	11.89%
2018	9.90%
2019	5.31%
2020	2.00%
2021	30.83%
2022	(10.81)%
2023	8.43%

Schedule of Changes in the Net Pension Liability and Related Ratios

(for years ended June 30)

	2023	2022	2021	2020
TOTAL PENSION LIABILITY				
Service Cost	7,156,062	\$7,194,124	\$6,536,818	\$5,861,499
Interest	35,098,769	34,672,914	33,332,676	31,967,469
Benefit Changes	0	0	9,589,716	997,533
Differences Between Expected and Actual Experience	24,739,809	(4,036,777)	(2,821,477)	7,543,752
Assumption Changes	14,369,541	0	0	0
Benefit Payments	(34,560,931)	(29,149,509)	(27,294,080)	(27,934,141)
NET CHANGE IN TOTAL PENSION LIABILITY	46,803,250	8,680,752	19,343,653	18,436,112
TOTAL PENSION LIABILITY, BEGINNING OF YEAR	504,594,302	495,913,550	476,569,897	458,133,785
TOTAL PENSION LIABILITY, END OF YEAR (a)	551,397,552	504,594,302	495,913,550	476,569,897
FIDUCIARY NET POSITION				
Contributions - Employer	23,989,270	22,693,976	22,783,661	21,873,425
Contributions - Member	0	0	0	0
Net Investment Income	31,210,504	(46,247,450)	101,415,206	6,700,845
Benefit Payments	(34,560,931)	(29,149,509)	(27,294,080)	(27,934,141)
Administrative Expense	(244,479)	(229,348)	(215,384)	(195,463)
Other	0	0	0	0
NET CHANGE IN FIDUCIARY NET POSITION	20,394,364	(52,932,331)	96,689,403	444,666
FIDUCIARY NET POSITION, BEGINNING OF YEAR	381,940,750	434,873,081	338,183,678	337,739,012
FIDUCIARY NET POSITION, END OF YEAR (b)	402,335,114	381,940,750	434,873,081	338,183,678
NET PENSION LIABILITY, END OF YEAR (a) - (b)	\$149,062,438	\$122,653,552	\$61,040,469	\$138,386,219
FIDUCIARY NET POSITION AS A PERCENTAGE OF THE TOTAL PENSION LIABILITY	72.97%	75.69%	87.69%	70.96%
COVERED - EMPLOYEE PAYROLL	\$37,711,310	\$32,757,302	\$33,585,266	\$33,311,093
NET PENSION LIABILITY AS A PERCENTAGE OF COVERED - EMPLOYEE PAYROLL	395.27%	374.43%	181.75%	415.44%

2019	2018	2017	2016	2015	2014
\$6,691,528	\$6,577,148	\$5,473,626	\$5,488,445	\$6,101,608	\$4,866,199
31,299,758	30,678,211	30,322,786	29,469,678	29,218,802	28,558,511
0	0	0	0	0	0
(1,805,446)	467,389	(3,052,763)	1,757,687	(3,107,531)	(454,349)
0	(4,529,133)	15,875,267	0	8,703,080	8,970,858
(24,930,275)	(24,185,418)	(24,631,787)	(26,035,466)	(23,358,801)	(21,688,239)
11,255,565	9,008,197	23,987,129	10,680,344	17,557,158	20,252,980
446,878,220	437,870,023	413,882,894	403,202,550	385,645,392	365,392,412
458,133,785	446,878,220	437,870,023	413,882,894	403,202,550	385,645,392
21,254,010	21,003,650	19,961,066	19,713,295	19,784,130	19,501,684
0	0	0	0	94,814	0
17,031,467	28,823,333	31,484,250	(210,045)	6,131,684	43,307,746
(24,930,275)	(24,185,419)	(24,631,787)	(26,035,466)	(23,358,801)	(21,688,239)
(554,441)	(228,430)	(208,424)	(205,342)	(196,231)	(189,658)
0	0	0	0	6	0
12,800,761	25,413,134	26,605,105	(6,737,558)	2,455,602	40,931,533
324,938,251	299,525,117	272,920,012	279,657,570	277,201,968	236,270,435
337,739,012	324,938,251	299,525,117	272,920,012	279,657,570	277,201,968
\$120,394,773	\$121,939,969	\$138,344,906	\$140,962,882	\$123,544,980	\$108,443,424
73.72%	72.71%	68.41%	65.94%	69.36%	71.88%
\$30,287,691	\$29,593,145	\$29,076,764	\$29,448,593	\$29,929,358	\$28,548,873
397.50%	412.05%	475.79%	478.67%	412.79%	379.85%



Investments



ASPRS
ARKANSAS STATE POLICE
RETIREMENT SYSTEM



Investment Overview

Investment returns play an important role in the funded ratio of the APERS trust fund. The Board of Trustees of the Arkansas Public Employees Retirement System (the Board) has adopted an Investment Policy Statement whose purpose is the exclusive benefit of the participants and beneficiaries of the system and whose objective is maximizing the total rate of return on investments within prudent risk parameters. The overall goal is to achieve an annualized rate of return which, when combined with employee and employer contributions, will meet or exceed the benefit and administrative requirements of the system.

The system's investments are managed by professional investment management firms based upon statutory investment authority as well as the investment policies adopted by the Board. The investment staff coordinates and monitors the investment of the trust fund's assets and assists in the formulation and implementation of investment policies and long-term investment strategy.

The net investment portfolio fair values shown in this section, and used for the basis of calculating investment returns, may differ from those shown in other sections of this report. The values shown in this section are the appropriate industry standard basis for investment return calculation.

Asset Allocation and Diversification

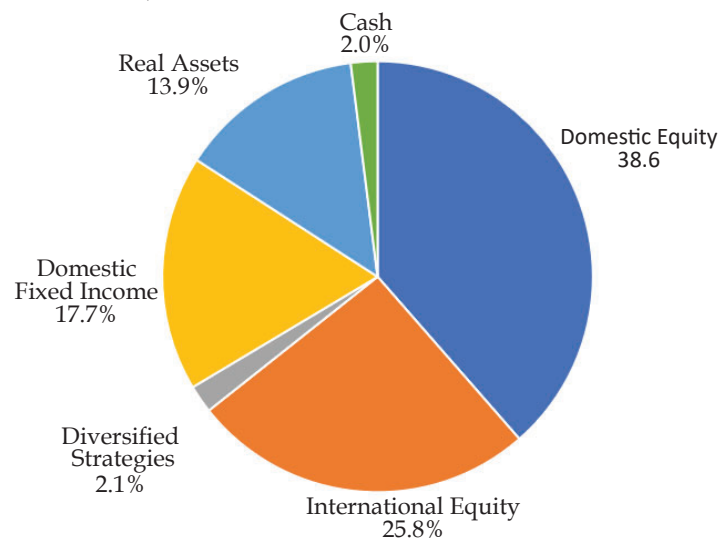
Asset allocation is a process which is designed to construct an optimal long-term asset mix which achieves a specific set of investment objectives. The Investment Policy Statement establishes the system's asset allocation policy as designed to meet those objectives.

The system's asset allocation policy has been adopted to provide diversification. The goal is to maximize the investment return as well as to be consistent with prudent levels of market and economic risks. The most important decision is the determination of asset allocation targets.

The pie chart illustrates the actual asset allocation to each type of investment as of the fiscal year.

Summary of Investments by Asset Class

as of June 30, 2023



Due to rounding, chart may not equal 100%

Risk is further diversified by utilizing active and passive management as well as by retaining multiple investment management firms with varying investment styles.

The system also places restrictions on the investment managers. APERS has investment guidelines that manage the risk of high concentrations in a particular sector, industry, or security.

Capital Markets Commentary

The system posted a return of 8.83%. Domestic Equity posted a 17.08% return for the fiscal year. International Equity posted a 14.19% return. Fixed Income posted a 0.82% return. Real Estate posted a (9.75%) return.

Third Quarter of 2022

The theme for the third quarter of the year was Ukraine war impacting energy prices, the continued hiking of interest rates, and the markets fearing a recession.

September 2022 (Q1 of FY 2023) lived up to its reputation as the cruelest month with the S&P 500 Index falling by -9.21%. The bond market did not help as the investment grade bond index fell -4.47%.

Investments

The financial markets were hammered by a third consecutive 75 basis point rate hike by the Federal Reserve. It was the most aggressive tightening since the 1980s. Fed Chairman Jerome Powell said “we have got to get inflation behind us. I wish there were a painless way to do that. There isn’t.”

The European Central Bank also raised rates by 75 basis points. Adding fuel to the fire and causing additional market turmoil, Russia illegally annexed four Ukrainian territories.

	3Q22
S&P 500	-4.9%
Russell 3000	-4.5%
Russell 2000	-2.2%
MSCI EAFE	-9.4%
MSCI ACWI xUS	-9.9%
Bloomberg Agg	-4.8%

Fourth Quarter of 2022

December is historically one of the strongest months of the year for stock performance. December 2022 was a disappointment. The S&P 500 fell -5.76% in the month of December alone. For the calendar year the index fell -18.11% as the headwinds from inflation continue, as does the war in Ukraine, and a continued fear of a recession. Inflation was +6.5% for the calendar year ending December 2022. The Federal Reserve hiked interest rates another 50 basis points in the middle of December.

A more pessimistic outlook by members of the Federal Open Market Committee was reflected in their Summary of Economic Projections, as well as a more hawkish tone from Federal Reserve Chairman Jerome Powell. The Bloomberg Aggregate fell -13% for the year, the worst year ever. For 4Q2022, value stocks outperformed growth stocks, large cap stocks outperformed small caps, and equities continued to experience higher volatility as the macroeconomic environment (e.g. inflation, a potential recession, continued geopolitical concerns) continues to influence the markets. On the good side of things, the developed market international stocks performed better than the S&P 500 during the

quarter. Internationally smaller rate hikes, lower absolute yield levels, less P/E contraction, and better earnings were the primary catalysts.

	4Q22	2022
S&P 500	7.60%	-18.1%
Russell 3000	7.20%	-19.2%
Russell 2000	6.2%	-20.4%
MSCI EAFE	17.3%	-14.5%
MSCI ACWI xUS	14.3%	-16.0%
Bloomberg Agg	1.9%	-13.0%

First Quarter of 2023

Concerns over petulant inflation and the Fed’s choreographed responses to it that were prevalent early in the month of March were turned upside down by a mid-month banking crisis that seemed to appear out of nowhere. I wrote in my CIO report how the banking crisis reminded me of a movie and the market behavior reminded me of the 2008 collapse as 2 of the 4 largest bank failures in the history of the United States occurred in March 2023.

The failures of Silicon Valley Bank and Signature Bank, a run on First Republic Bank (bankrupt in April 2023), as well as the near collapse of Credit Suisse, all in rapid succession, had the financial markets staring into a financial abyss. Rapid and coordinated efforts and responses by the Federal Reserve, the U.S. Treasury Department, the FDIC, five foreign central banks, and a handful of U.S. banking juggernauts all helped circumvent what could have turned into a systemic meltdown of the U.S. financial and banking system.

In March alone, the yield on the 2-year Treasury note fell from 4.82% to 4.03%, which was the largest monthly decline since January of 2008 during the Global Financial Crisis. Investors anticipated that the rates hikes were over, and rate cuts would ensue by the end of summer 2023. For the quarter, “risk on” was rewarded, as low-quality stocks beat high-quality stocks, and high-beta beat low-beta. Growth outperformed value.

	1Q23
S&P 500	7.5%
Russell 3000	7.2%
Russell 2000	2.7%
MSCI EAFE	8.5%
MSCI ACWI xUS	7.3%
Bloomberg Agg	3.0%

Investment Portfolio Assets

At the close of FY2023, APERS' investment portfolio had a fair value of \$10.691 billion which was an increase of \$593 million from the \$10.098 billion investment value from June 30, 2022.

Second Quarter 2023

A resilient economy continued to defy recession forecasts, a broadening number of stocks posting positive returns, and progress on the inflation front gave the Federal Reserve latitude to skip raising interest rates for the first time in ten meetings. The S&P posted a +6.61% return for the month of June 2023. Since the low in October 2022, the S&P 500 gained +24.4% from its low. During the quarter, six stocks, dubbed the "Super Six" (Meta, Amazon, NVIDIA, Microsoft, Apple, Tesla) accounted for 60 percent of the S&P 500 return. (The "Magnificent Seven" is the "Super Six" plus Alphabet.) The top 50 stocks of the S&P 500 returned +13.2% for the second quarter, and the next 450 companies only returned +2.75%. For the first half of 2023, the top 50 stocks have gained +26.3% versus +5.1% for the next 450 stocks.

Even though they skipped a June rate hike, the Fed did indicate that two more rate hikes were on the way. The rationale for the hawkish stance lies on the inflation front and headline CPI and PCE are falling at an accelerated pace, mostly due to energy prices, but the core measures remain elevated.

	2Q23	FY 2023
S&P 500	8.7%	19.6%
Russell 3000	8.4%	19.0%
Russell 2000	5.2%	12.3%
MSCI EAFE	3.0%	18.8%
MSCI ACWI xUS	6.2%	16.5%
Bloomberg Agg	-0.8%	-0.9%

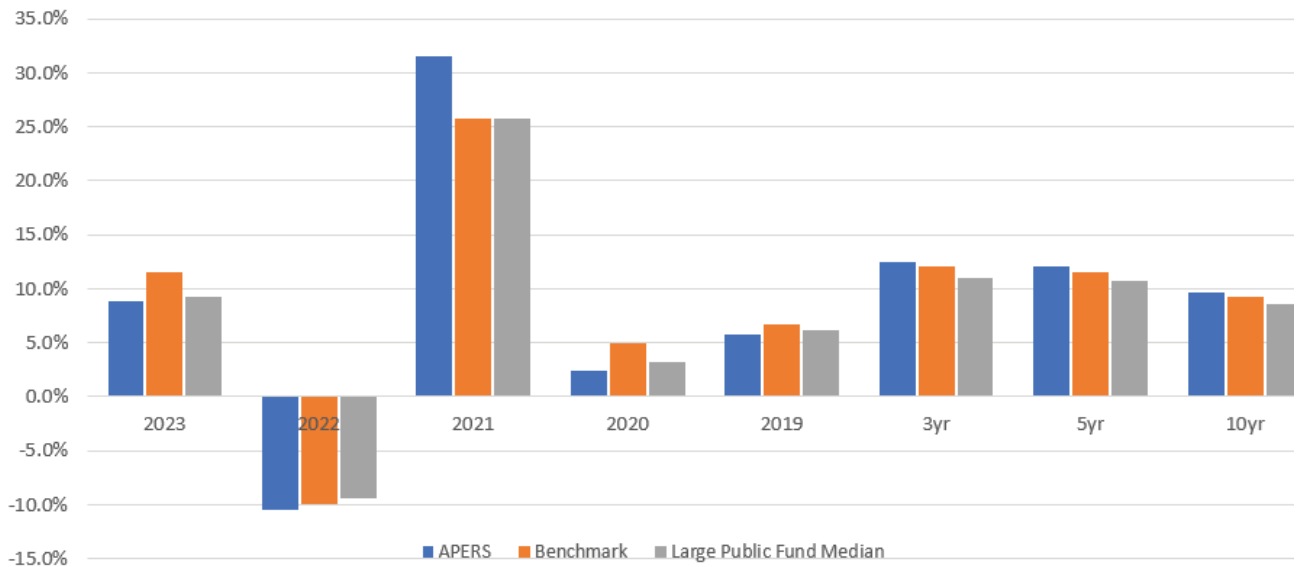
Investment Results

For the fiscal year ending June 30, 2023, APERS realized a total portfolio investment return of +8.83%. The return underperformed the 11.50% return of APERS’ policy benchmark, a set of market indexes and weightings to those indexes that reflect APERS’ asset class targets. Outperformance was aided by active investment management, especially in the international equity allocation.

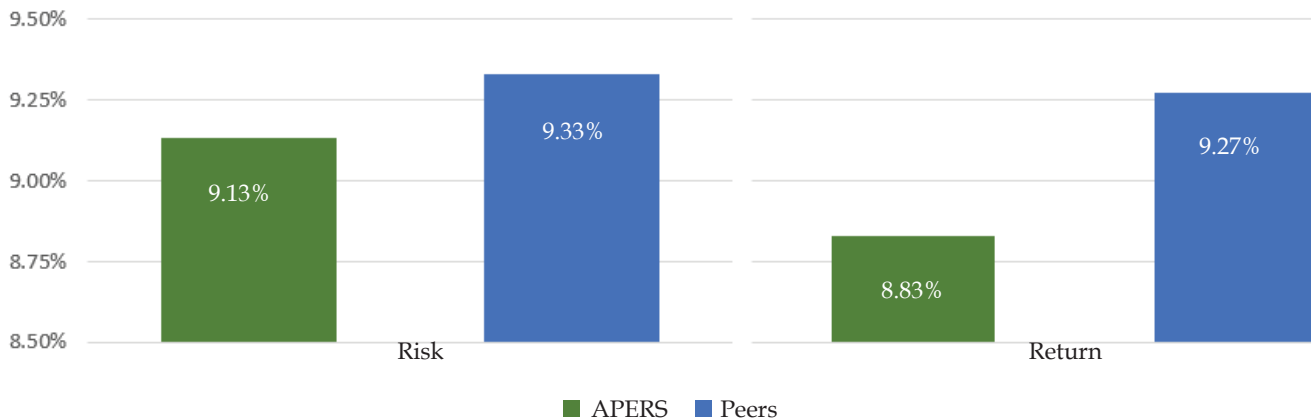
The following graphs and tables provide a historical perspective of APERS’ investment returns and performance over the past few years. APERS’ investment returns are shown for the total portfolio as well as for each asset class over various time periods. The benchmark or target for each asset class is also shown.

APERS’ +8.83% return did exceed the actuarial assumed rate of return of 7.15%.

Investment Performance Summary



Risk vs. Total Return

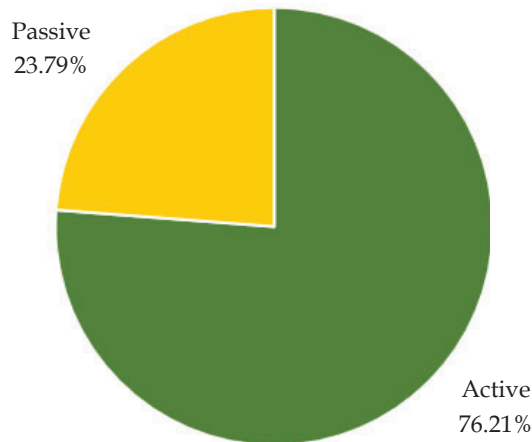


Domestic Equity

As of June 30, 2023, 39.4% of APERS' portfolio was invested in domestic equities (U.S. stocks). The fair value of the domestic equity portfolio was \$4.125 billion.

The portfolio takes an active management approach to the U.S. stock markets with 66% invested with active investment managers.

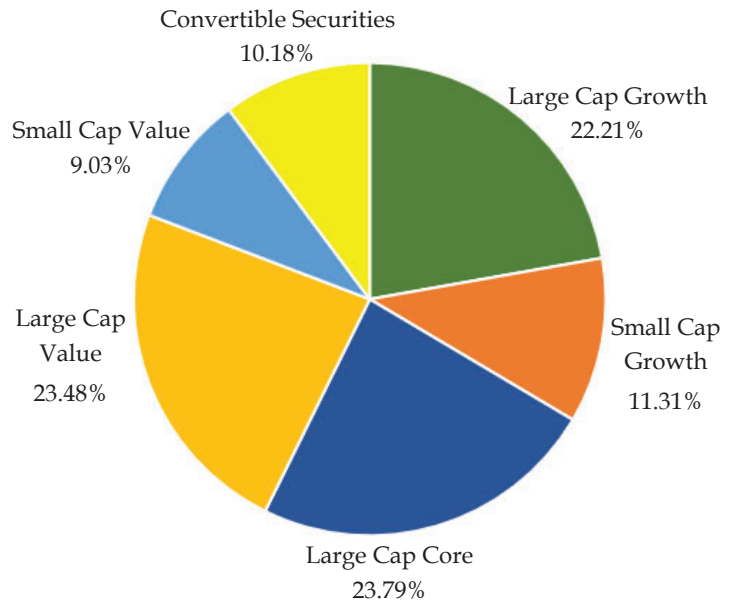
Active vs. Passive Portfolio Assets



The passive component was primarily an S&P 500 Index fund and an Large Cap Growth Index Fund. It constitutes an efficient, low-cost means of obtaining market exposure and provides liquidity should it be needed for benefit payments.

APERS utilizes active management in small, mid, and large capitalization stock strategies. The portfolio is also invested in strategies that focus on different investment styles: a value portfolio which focuses on companies undervalued relative to their prospective dividend and earnings growth; a growth portfolio which focuses on companies whose earnings are expected to grow at rates which exceed the general economy; and a core portfolio which seeks to add value across all sectors through stock selection.

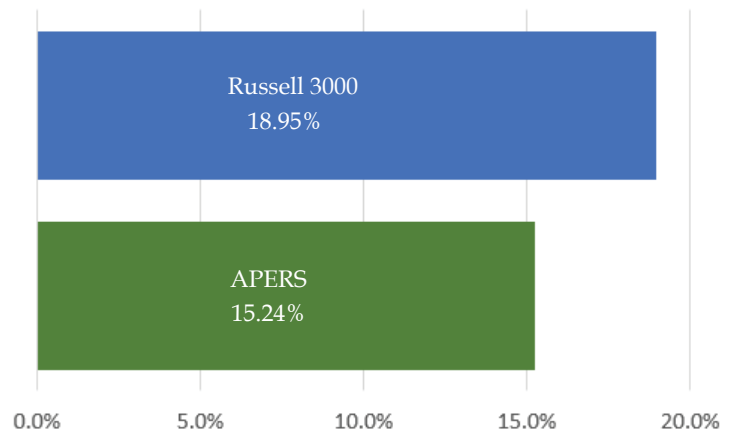
APERS Portfolio Strategies



The portfolio is widely diversified across various equity market sectors and industries.

Results

The domestic equity portfolio returned 15.24% for the fiscal year. APERS' benchmark, the Russell 3000 Index, returned 18.95%.

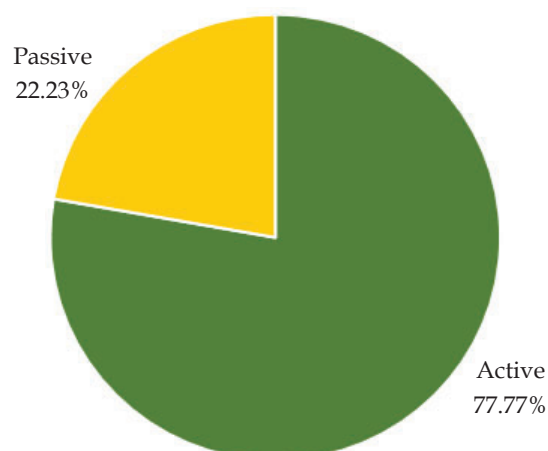


Investments

International Equity

As of June 30, 2023, 26.3% of APERS' portfolio was invested in international equities (Non-U.S. stocks). The fair value of the international equity portfolio was \$2.755 billion.

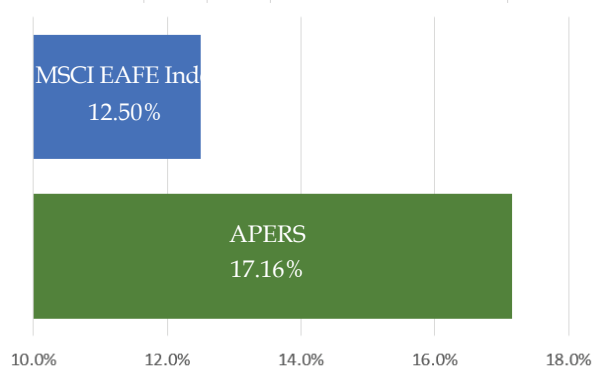
The portfolio takes an active management approach to international markets with approximately 77% invested with active investment managers. The international portfolio assets are allocated across developed and emerging markets. APERS utilizes the MSCI EAFE (Europe, Asian, and Far East) Index as its benchmark for the international equity index.



The passive component is an ACWI ex-US Index Fund. Similar to the S&P 500 Index Fund, it constitutes an efficient, low-cost means of obtaining market exposure and provides liquidity should it be needed for benefit payments.

Results

The international equity portfolio returned 17.16% for the fiscal year. APERS' benchmark, the MSCI EAFE Index, returned 12.5%.

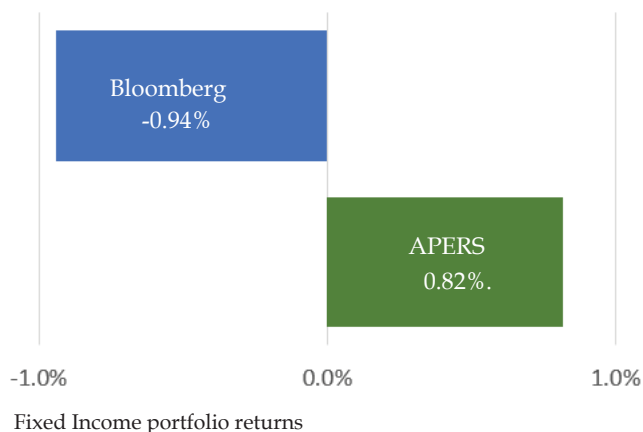
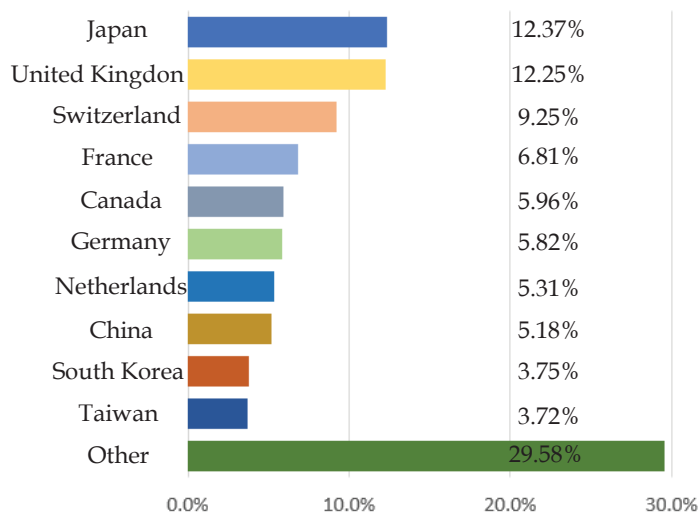


Top 10 Holdings

The top 10 holdings within the public equity portfolio (domestic and international combined) as of June 30, 2023

	Holding	Market Value*
1	ALPHABET INC	\$23,748,560
2	MICROSOFT CORP	\$18,333,765
3	APPLE INC	\$14,985,799
4	SAMSUNG ELECTRONICS CO LTD	\$13,525,244
5	VISA INC	\$12,670,745
6	S&P GLOBAL INC	\$12,641,398
7	COMPASS GROUP PLC	\$12,515,184
8	NOVARTIS AG	\$12,397,563
9	ABB LTD	\$12,301,066
10	LABORATORY CORP OF AMERICA	\$12,146,943

Public Equity Distribution by Country



Top 10 Holdings

The top 10 holdings within the fixed income portfolio as of June 30, 2023

Fixed Income

As of June 30, 2023, 18% of APERS' portfolio was invested in fixed income securities. The fair value of the international equity portfolio was \$1.887 billion

Core-Plus Fixed Income

APERS' fixed income portfolio is invested in core-plus fixed income strategies. The objective is to generate a return above the core fixed income investment. The fixed income portfolio is 100% invested in core plus and is 100% actively managed.

The core-plus portfolio is a diversified portfolio of fixed income securities, utilizing cash and cash equivalents, forward foreign exchange contracts, swaps, currency options, financial futures, government and government agency bonds, Eurobonds, nondollar bonds, nonconvertible preferred stock, options on fixed income instruments, mortgage-backed bonds, corporate bonds, commercial mortgage-backed securities, private placement corporate bonds, and asset-backed securities.

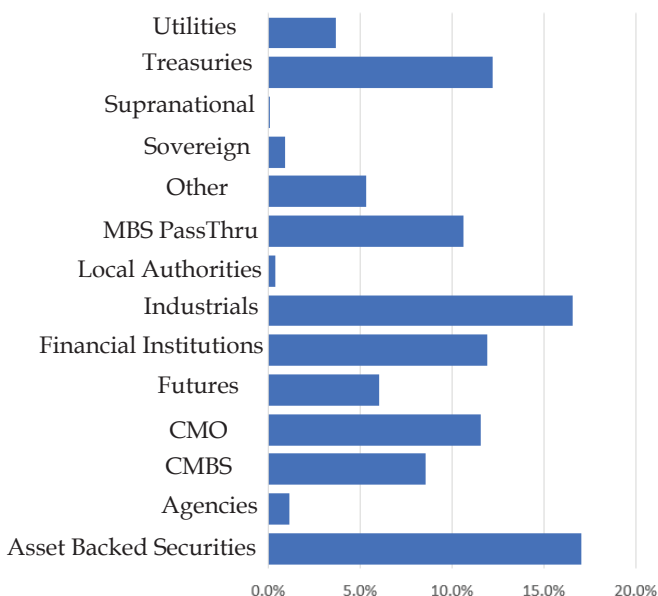
Results

The fixed income portfolio returned 0.8% for the fiscal year. APERS' benchmark, the Bloomberg Aggregate Index, returned -0.9%.

Holdings	Market Value*
1 US Treasury 3.625% 05/15/2053	\$85,586,290
2 US Treasury 3.375% 05/15/2033	\$31,168,030
3 US Treasury 3.875% 05/15/2043	\$27,502,584
4 US Treasury 3.875% 04/30/2025	\$10,984,822
5 FNMA 5.000% 02/01/2053	\$10,211,747
6 FNMA 4.000% 05/01/2052	\$8,113,422
7 FHLMC 4.500% 09/01/2052	\$7,929,923
8 US Treasury 3.625% 05/15/2026	\$7,135,563
9 US Treasury 4.000% 06/30/2028	\$6,834,163
10 Conn L&P VAR RT 03/25/2042	\$5,837,049

*Figures are APERS and ASPRS combined

Fixed Income Distribution



Diversified Strategies

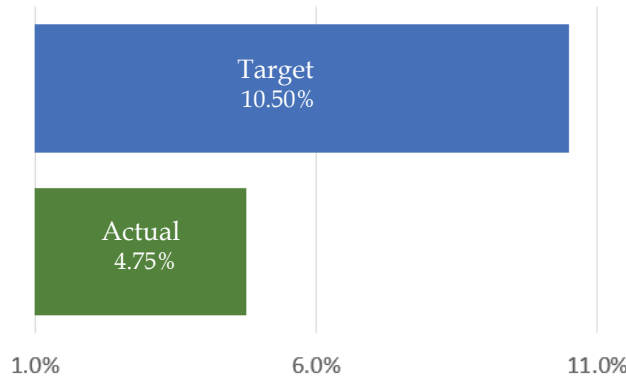
As of June 30, 2023, 2.1% of APERS’ portfolio was invested in diversified strategies. This asset class has the smallest allocation target. The fair value of the portfolio was \$219 million.

The Fund-of-Funds strategy invests in hedge funds. The total number of funds varies as does the types of strategies. On June 30, 2023, there were fundamental equity strategies, event driven strategies, fundamental credit strategies, credit trading strategies, distressed credit strategies, RMBS strategies, structured ABS strategies, “multi-strat” strategies, commodity strategies, macro rates strategies, thematic macro strategies, quantitative strategies, CTA strategies, and special situation strategies in the portfolio

Results

The Diversified Strategies portfolio returned 4.75% for the fiscal year. APERS’ target returned 10.5% which is not a benchmark because a benchmark does not exist. The target comprises 60% of the MSCI World Index and 40% of the Bloomberg Aggregate Index.

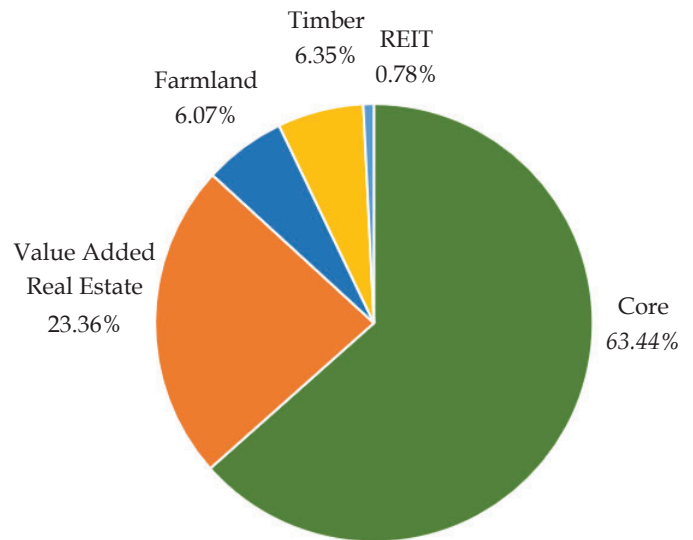
Diversified Strategies portfolio



Real Assets

As of June 30, 2023, 14.2% of APERS’ portfolio was invested in real assets. The fair value of the portfolio was \$1.485 billion.

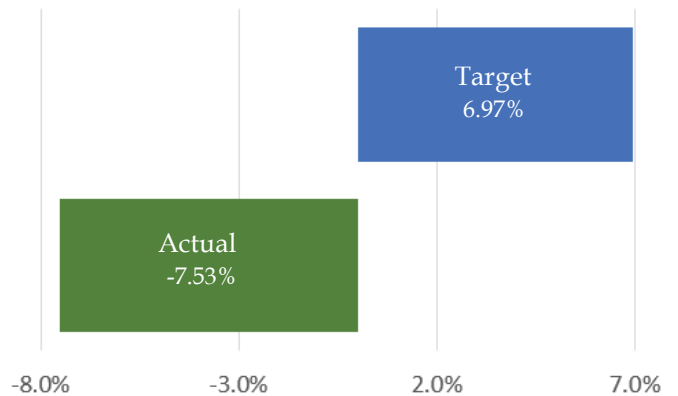
The asset allocation comprises five different sub-categories: core real estate, value add real estate, timber, agriculture, and a passive REIT index.



Results

The Real Assets portfolio returned -7.53% for the fiscal year. APERS’ target returned 6.97% which is not a benchmark because a benchmark does not exist. The target comprises CPI-U +4%.

Real Assets portfolio



Core Real estate returned -9.24% for the fiscal year, Value Add Real Estate returned -8.77%, Timber returned 17.13%, REITs returned -1.1%, and Agriculture returned 4.68%

Schedule of Comparative Investment Results by Year

	2023	2022	2021	2020	2019	2018	2017
Total Fund							
APERS	8.83%	-10.54%	31.49%	2.41%	5.78%	10.25%	12.30%
APERS Benchmark	11.50%	-9.88%	25.82%	4.91%	6.68%	8.40%	12.90%
Actuarial Assumed Investment Return	7.15%	7.15%	7.15%	7.15%	7.15%	7.15%	7.15%
Domestic Equities							
APERS	15.24%	-14.22%	43.65%	6.06%	8.12%	16.27%	17.52%
Russell 3000 Index	18.95%	-13.87%	44.16%	6.53%	8.98%	14.78%	18.51%
International Equities							
APERS	17.06%	-22.24%	41.35%	(1.45)%	1.98%	7.22%	18.39%
MSCI - EAFE Index	18.77%	-17.77%	32.35%	(5.13)%	1.08%	6.84%	20.27%
Fixed Income							
APERS	0.82%	-11.39%	4.32%	6.81%	8.57%	0.79%	3.04%
Bloomberg Aggregate Index	-0.94%	-10.29%	(0.33)%	8.74%	7.87%	(0.40)%	(0.31)%
Diversified Strategies							
APERS	4.75%	-4.53%	17.26%	(1.17)%	10.20%	6.43%	5.51%
Diversified Strategy Target	10.49%	-12.51%	22.15%	6.45%	7.41%	6.40%	10.51%
Real Assets							
APERS	-7.53%	29.59%	18.52%	(4.37)%	1.72%	11.34%	3.27%
Consumer Price Index - U + 4%	6.97%	13.06%	9.39%	4.65%	5.65%	6.87%	5.63%

Schedule of Comparative Annualized Investment Results

	3-year	5-year	7-year	10-year
Total Fund				
APERS	8.58%	6.76%	8.03%	7.78%
APERS Benchmark	7.97%	7.09%	8.09%	7.62%
Actuarial Assumed Investment Return	7.15%	7.15%		
Domestic Equities				
APERS	12.40%	10.24%	12.10%	11.46%
Russell 3000 Index	13.89%	11.39%	12.86%	12.34%
International Equities				
APERS	8.76%	5.27%	7.33%	6.38%
MSCI - EAFE Index	8.93%	4.39%	5.76%	4.64%
Fixed Income				
APERS	-2.32%	1.57%	1.66%	2.49%
Bloomberg Aggregate Index	-3.96%	0.77%	0.44%	1.52%
Diversified Strategies				
APERS	5.45%	5.01%	5.28%	5.53%
Diversified Strategy Target	5.69%	6.19%	6.82%	6.55%
Real Assets				
APERS	12.40%	6.68%	6.83%	7.03%
Consumer Price Index - U + 4%	9.78%	7.90%	7.43%	6.71%

Schedule of Manager Distribution

(for the year ended June 30, 2023)

Asset Allocation	Total	ASPRS	APERS
Domestic Equity			
SSI Investment Management	\$ 422,312,007	\$ 15,644,971	\$ 406,667,036
Lazard Asset Management	508,707,318	18,845,571	489,861,746
Wellington	472,588,558	17,507,516	455,081,042
CastleArk Management	517,998,778	19,189,783	498,808,995
Intech	377,898	14,000	363,898
Stephens	470,103,300	17,415,447	452,687,853
LSV Asset Management	358,342,617	13,275,161	345,067,457
Horrell Capital (Passive)	206,818,033	7,661,781	199,156,252
BNYM Large Cap Growth	398,489,563	14,762,444	383,727,119
MCM EB DV Stock Index	769,549,140	28,508,717	741,040,423
Domestic Fixed Income			
Mackay CP II (Pareto)	639,242,354	23,681,372	615,560,982
Doubleline Capital	600,332,285	22,239,910	578,092,375
Prudential Investments	648,397,994	24,020,552	624,377,442
International Equity			
MCM ACWI Ex-US Index Fund	607,157,102	22,492,742	584,664,360
Acadian Asset Management	187,373,390	6,941,435	180,431,956
Franklin Templeton	154,442,291	5,721,469	148,720,822
Manning & Napier	263,181	9,750	253,432
Lazard Asset Management	576,526,548	21,358,002	555,168,545
Artisan Partners	691,962,595	25,634,446	666,328,148
Baillie Gifford	538,088,001	19,934,008	518,153,993
Diversified Strategies			
AQR Capital Management	3.23	0.12	3.11
Newton Capital Management	-	-	-
Blackstone	219,312,431	8,124,648	211,187,783
Real Assets			
CastleArk (Global Energy)	11,536	427	11,109
PGIM Agriculture	37,814,521	1,400,877	36,413,644
ICF International Farming	52,722,782	1,953,168	50,769,614
Harrison Street Fund VIII	44,609,947	1,652,620	42,957,327
Starwood SOF XII	16,552,752	613,213	15,939,539
Invesco Realty (Core Fund)	579,019,606	21,450,360	557,569,246
Heitman Value Fd IV	44,500,345	1,648,560	42,851,785
Ta Associates Realty - Fund X	8,283	307	7,976
Ta Associates Realty - Fund XI	23,372,673	865,864	22,506,809
Ta Associates Realty - Fund XII	101,972,712	3,777,681	98,195,031
Lasalle Investment Management - Fund VI	5,548,168	205,537	5,342,630
Lasalle Investment Management - Fund VII	28,330,144	1,049,519	27,280,625
Heitman Real Estate	362,783,136	13,439,664	349,343,472
Pinnacle Forest Investments	94,610,040	3,504,924	91,105,116
MCM EB DV Non St Rt	11,622,780	430,577	11,192,202
Carlyle Prop Inv Fund	-	-	-
Principal Enhanced PF	-	-	-
Clarion Lion Ind Trust	81,860,518	3,032,605	78,827,913
Short-term Investment Fund	217,536,454	8,058,855	209,477,598
TOTAL FUND	\$ 10,691,261,784	\$ 396,068,484	\$ 10,295,193,300

Schedule of Brokerage Commissions

(for the year ended June 30, 2023)

Brokerage firm	Total Commission	ASPRS	APERS
J.P. Morgan Securities	\$ 157,106	\$ 5,820	\$ 151,286
Citigroup Global Markets, Inc	114,112	4,227	109,885
Merrill Lynch & Co Inc	109,438	4,054	105,384
UBS	93,410	3,460	89,950
Goldman Sachs Intl	73,312	2,716	70,596
Morgan Stanley And Co	61,825	2,290	59,534
Jefferies & Co Inc	50,005	1,852	48,153
Virtu Americas Llc	41,957	1,554	40,402
Pershing	30,045	1,113	28,932
Stifel Nicolaus	26,755	991	25,763
All others (95)	473,975	17,559	456,416
	<u>\$ 2,115,313</u>	<u>\$ 78,855</u>	<u>\$ 2,036,458</u>

Schedule of Investment Fees

(for the year ended June 30, 2023)

	Combined Fees	ASPRS Fees	APERS Fees
Domestic Equity	\$ 12,667,244	\$ 469,271	\$ 12,197,973
International Equity	3,636,124	134,704	3,501,420
Fixed Income	9,263,613	343,180	8,920,433
Real Assets	3,388,030	125,513	3,262,517
Diversified Strategies	5,513,600	204,257	5,309,343
The Bank of New York Mellon*	352,227	13,049	339,178
Callan Associates†	514,561	19,062	495,499
Total Investment Service Fees	<u>\$ 35,335,398</u>	<u>\$ 1,309,035</u>	<u>\$ 34,026,363</u>

*Custodian bank

† Investment consultant

Actuarial



ASPRS
ARKANSAS STATE POLICE
RETIREMENT SYSTEM





November 2, 2023

Board of Trustees
Arkansas State Police Retirement System
Little Rock, Arkansas

Dear Board Members:

The basic financial objective of the Arkansas State Police Retirement System (ASPRS) as provided in the Arkansas Code is to establish and receive contributions which, expressed as percents of active member payroll, will remain approximately level from generation to generation of Arkansas citizens and when combined with present assets and future investment return will be sufficient to meet the financial obligations of ASPRS to present and future benefit recipients. The progress towards meeting this financial objective is illustrated in the Schedule of Funding Progress and the Schedule of Employer Contributions.

We performed an actuarial valuation and issued an actuarial valuation report for ASPRS as of June 30, 2023. The purpose of the June 30, 2023 annual actuarial valuation was to determine the contribution requirement for the fiscal year ending June 30, 2024 and to measure the System's funding progress. The actuarial valuation report should not be relied upon for any other purpose. The valuation process develops contribution rates that are sufficient to fund the plan's normal cost (i.e., the cost assigned by the valuation method to the year of service about to be rendered) as well as to fund unfunded actuarial accrued liabilities as a level percent of active member payroll over a period of up to 30 years. The most recent valuations were completed based upon population data, asset data, and plan provisions as of June 30, 2023. In addition, a separate report was issued (dated November 1, 2023) to provide actuarial information for GASB Statement No. 67 and GASB Statement No. 68.

The ASPRS administrative staff provides the actuary with data for the actuarial valuation. The actuary relies on the data after reviewing it for internal and year-to-year consistency. The actuary summarizes and tabulates population data in order to analyze longer term trends. We are not responsible for the accuracy or completeness of the data provided by staff.

The actuarial valuation report and GASB Statement Nos. 67 and 68 report contain the following supporting schedules for use in the Actuarial and Financial Sections of the Annual Comprehensive Financial Report:

Actuarial Section

- Summary of Assumptions Used
- Summary of Actuarial Methods and Assumptions
- Active Member Valuation Data
- Short Condition Test
- Analysis of Financial Experience
- Analysis of Financial Experience – Gains and Losses by Risk Area

Financial Section

- Schedule of Funding Progress
- Schedule of Changes in Net Pension Liability and Related Ratios
- Schedule of the Net Pension Liability
- Schedule of Contributions
- Notes to Schedule of Contributions

For actuarial valuation purposes, assets are valued on a market related basis that recognizes each year's difference between actual and assumed investment return over a closed four-year period.

Actuarial valuations are based upon assumptions regarding future activity in specific risk areas, including the rates of investment return and payroll growth, eligibility for the various classes of benefits, and longevity among retired lives. These assumptions are adopted by the Board after considering the advice of the actuary and other professionals. The assumptions and the methods comply with the requirements of the Actuarial Standards of Practice. Each actuarial valuation takes into account all prior differences between actual and assumed experience in each risk area and adjusts the contribution rates as needed. The June 30, 2023 valuations were based upon assumptions that were recommended in connection with a study of experience covering the period 2017-2022.

The computed employer contribution rate to satisfy the statutory funding requirements set forth in Section 24-6-209 of the Arkansas Code is 56.59% of covered payroll for the year beginning July 1, 2023. Actual revenues were greater than the statutory requirement for the last 17 years. ASPRS' ongoing ability to satisfy statutory funding requirements is dependent upon its access to sufficient annual transfers from the remainder of insurance premium taxes enumerated in A.C.A.19-6-301(27) to finance unfunded actuarial accrued liabilities over a closed period of 16 years.

Future actuarial measurements may differ significantly from those presented in the annual valuations due to such factors as experience differing from that anticipated by actuarial assumptions, or changes in plan provisions, actuarial assumptions/methods or applicable law. Due to the limited scope of the assignment, we did not perform an analysis of the potential range of future measurements.

The reports were prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation, and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled

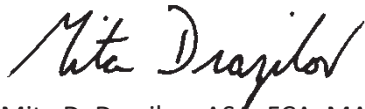


Board of Trustees
Arkansas State Police Retirement System
November 2, 2023
Page 3

The signing actuaries are independent of the plan sponsor.

Mita D. Drazilov and Heidi G. Barry are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,
Gabriel, Roeder, Smith & Company



Mita D. Drazilov, ASA, FCA, MAAA



Heidi G. Barry, ASA, FCA, MAAA

MDD/HGB:dj



Summary of Actuarial Assumptions*

Economic Assumptions

The investment return assumption used in making the valuation was 7.00% per year, compounded annually (net after investment expenses). The assumed real rate of return is the portion of investment return which is more than the wage inflation rate. Considering assumed wage inflation of 3.25%, the 7.00% investment return rate translates to an effective assumed real rate of return of 3.75%. The wage inflation assumption was revised for the June 30, 2015, valuation and the investment return assumption was revised for the June 30, 2023, valuation.

Pay increase assumptions for individual active members are shown on page D-5. Part of the assumption for each age is for a merit and/or seniority increase, and the other 3.25% recognizes wage inflation. The wage inflation assumption consists of 2.50% for price inflation and 0.75% for real wage growth. The pay increase assumption for individual active members was revised for the June 30, 2023, valuation.

Total active member payroll is assumed to increase 3.25% a year, which is the portion of the individual pay increase assumptions recognizing wage inflation.

The number of active members is assumed to continue at the present number.

Non-Economic Assumptions

The healthy retiree mortality tables, for post-retirement mortality, used in evaluating allowances to be paid were the PubS-2010 Amount-Weighted Below-Median Income Safety Retiree Mortality tables for healthy retirees, multiplied by 114% for males and 108% for females. The disabled retiree mortality tables, for post-retirement disabled mortality, used in evaluating allowances to be paid were the PubNS-2010 Amount-Weighted Safety Disabled Retiree Mortality tables for disabled retirees, multiplied by 114% for males and 108% for females. The pre-retirement mortality tables used were 75% of the PubS-2010 Amount-Weighted Below-Median Safety Employee Mortality tables for active mortality experience. Mortality rates for a particular calendar year are determined by

applying the MP-2021 mortality improvement scale to the above described tables. Related values are shown on pages D-3 (post-retirement) and D-5 (pre-retirement). These assumptions were first used for the June 30, 2023 valuation.

The probabilities of retirement for members eligible to retire are shown on page D-4. The assumption was revised for the June 30, 2023, valuation.

The probabilities of death-in-service, disability and withdrawal from service are shown for sample ages on page D-5. The assumption for death-in-service was revised for the June 30, 2023, valuation.

The individual entry-age normal actuarial cost method of the valuation was used in determining liabilities and normal cost.

Differences in the past between assumed experience and actual experience (“actuarial gains and losses”) become part of actuarial accrued liabilities.

Unfunded actuarial accrued liabilities are amortized to produce contribution amounts (principal and interest) which are level percent-of-payroll contributions.

Present assets (cash and investments) were valued on a market related basis in which differences between actual and assumed returns are phased-in over a four-year period.

The data about persons now covered and about present assets was furnished by the system’s administrative staff. Although examined for general reasonableness, the data was not audited by the Actuary.

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA).

*The data referenced in this section is taken from the actuary’s report, Arkansas State Police Retirement System Actuarial Valuation and Experience Gain/(Loss) Analysis June 30, 2023, prepared by Gabriel Roeder Smith & Co. A PDF copy of the report is available for download at www.apers.org.

Supplementary Information

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest valuation date follows:

Valuation Date	June 30, 2023
Actuarial Cost Method	Entry Age Normal Cost
Amortization Method	Level Percent-of-Payroll
Remaining Amortization Period	16-Year Closed
Asset Valuation Method	4-Year Smoothed Market
Actuarial Assumptions:	
Investment Rate of Return	7.00%
Projected Salary Increases	4.05% -8.25%
Including Wage Inflation at	3.25%
Cost-of-Living Adjustments	3.0% Annual Compound Increases
Retirees and Beneficiaries Receiving Benefits	740
Terminated Plan Members Entitled to But Not Yet Receiving Benefits	123
DROP Members	35
Active Plan Members	482
Total	<u>1,380</u>

Actuarial Data

Single Life Retirement Values

Sample Attained Ages	Present Value of \$1.00 Monthly for Life		Present Value of \$1.00 Monthly for Life Increasing 3% Annually		Future Life Expectancy (Years) 2023 *	
	Men	Women	Men	Women	Men	Women
40	\$ 161.48	\$ 166.16	\$ 240.30	\$ 251.94	42.60	46.78
45	156.27	162.05	226.56	239.66	37.50	41.55
50	149.92	156.33	211.14	224.83	32.60	36.35
55	141.50	148.80	193.02	207.51	27.79	31.26
60	130.99	139.41	172.65	188.04	23.18	26.39
65	118.50	128.07	150.63	166.68	18.87	21.81
70	103.77	114.30	127.06	143.29	14.89	17.50
75	87.12	98.06	102.75	118.33	11.30	13.52
80	69.47	80.33	79.06	93.40	8.21	10.04
85	52.74	62.79	58.13	70.55	5.74	7.18

* Applicable to calendar year 2023. Life expectancies and rates in future years are determined by the fully generational MP-2021 projection scale.

Sample Attained Ages	\$100 Benefit Increasing 3% Yearly
55	\$100.00
60	115.93
65	134.39
70	155.79
75	180.60
80	209.36

Active Members in Actuarial Valuation (for fiscal years ended June 30)

June 30	No. #	Group Averages		
		Age	Service	Pay
2014	530	41.6	13.9	53,866
2015	558	41.0	13.0	53,637
2016	554	40.9	13.1	53,156
2017	528	41.7	13.8	55,070
2018	528	41.4	12.7	56,048
2019	529	41.0	12.5	57,255
2020	541	40.9	12.5	61,573
2021	545	41.1	12.6	61,624
2022	519	40.8	12.6	63,116
2023	517	40.4	13.8	72,943

Includes DROP participants.

Tier One and Tier Two Participants (as of June 30, 2023)

	No.	Group Averages			
		Age	Vesting Service	Pay	
Tier One	13	51.8 yrs.	28.4 yrs.	\$105,913	
Tier Two	469	38.8	12.2	70,526	
Tier One - DROP	27	57.8	29.6	94,975	
Tier Two - DROP	8	54.1	31.2	86,677	
Total	517	40.4	13.8	\$ 72,943	

Separations from Active Employment Before Retirement (as of June 30, 2023)

Sample Ages	Percent of Active Members Separating Within the Next Year				Pay Increase Assumptions for Active Members		
	Death		Disability	Other	Merit & Seniority	Base (Economic)	Increase Next Year
	Male	Female					
20	0.03%	0.02%	0.06%	5.50%	5.00%	3.25%	8.25%
25	0.04%	0.02%	0.09%	5.50%	4.40%	3.25%	7.65%
30	0.06%	0.04%	0.19%	5.50%	3.40%	3.25%	6.65%
35	0.07%	0.05%	0.31%	4.18%	2.40%	3.25%	5.65%
40	0.08%	0.06%	0.43%	2.64%	1.88%	3.25%	5.13%
45	0.09%	0.07%	0.55%	1.43%	1.60%	3.25%	4.85%
50	0.11%	0.08%	0.67%	0.55%	1.30%	3.25%	4.55%
55	0.17%	0.12%	0.79%	0.00%	1.10%	3.25%	4.35%

Probabilities of death are for calendar year 2023.

Probabilities of Retirement for Members Eligible to Retire (as of June 30, 2023)

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year		Years of Service	Percent of Eligible Active Members Retiring Within Next Year
	Tier One	Tier Two		Tier Two
47	1%	-		
48	1%	-	28	20%
49	3%	-	29	10%
50	7%	3%	30	10%
51	10%	3%	31	10%
52	8%	3%	32	10%
53	10%	6%	33	20%
54	10%	10%	34	35%
55	8%	35%	35	40%
56	8%	25%	36 & Over	100%
57	10%	25%		
58	18%	25%		
59	40%	25%		
60	50%	25%		
61	50%	30%		
62	50%	100%		
63	80%	100%		
64	100%	100%		
65	100%	100%		

A member is assumed to be eligible to retire at age 52 (55 for Tier Two) with 17 years of service, or at age 50 with 28 years of service (Tier One), or at any age with 28 years of service (Tier Two). A member is assumed to be eligible to retire early at age 47 (50 for Tier Two) with 17 years of service. For a Tier Two member with 28 or more years of service at the beginning of a year, the percentages shown for service based retirement (28 or more years) take precedence over the percentages associated with age based retirement.

For purposes of modeling, Tier Two members who are eligible to retire under the service based condition are assumed to have one year of credited service in addition to the credited service that is reported for valuation purposes.

Short Condition Test

The ASPRS funding objective is to meet long-term benefit promises through contributions that remain approximately level from year-to-year as a percent of member payroll. If the contributions to the system are level in concept and soundly executed, the system will pay all promised benefits when due – the ultimate test of financial soundness. Testing for level contribution rates is the long-term test.

A short condition test is one means of checking a system's progress under its funding program. In a short condition test, the system's present assets (cash and investments) are compared with

1. Member accumulated contributions;
2. The liabilities for future benefits to present retired lives; and

3. The employer financed portion of liabilities for service already rendered by non-retired members.

In a system that has been following the discipline of level percent-of-payroll financing, active member contributions (liability 1) and the liabilities for future benefits to present retired lives (liability 2) will be fully covered by valuation assets (except in rare circumstances). In addition, the liabilities for service already rendered by active members (liability 3) will be partially covered by the remainder of valuation assets. The larger the funded portion of liability 3, the stronger the condition of the system.

Ten-Year Comparative Statement

Valuation Date June 30	Entry Age Accrued Liability			Valuation Assets	Portion of Present Values Covered by Valuation Assets			
	(1) Active Members Contr.	(2) Retirees and Benef.	(3) Active Member (Employer Financed Portion)		(1)	(2)	(3)	Total
(\$ in Millions)								
2014@	\$0.50	\$237.17	\$144.19	\$259.46	100%	100%	15%	68%
2015*	0.37	252.79	145.80	274.83	100%	100%	15%	69%
2016	0.57	260.49	147.68	297.91	100%	100%	19%	71%
2017@	0.57	273.86	154.62	305.85	100%	100%	20%	71%
2018	0.62	284.61	157.70	319.79	100%	100%	22%	72%
2019	0.57	296.12	157.93	335.97	100%	100%	25%	74%
2020#	0.65	301.96	170.31	352.08	100%	100%	29%	74%
2021#	0.61	305.18	185.72	387.54	100%	100%	44%	79%
2022	0.58	319.89	179.80	403.30	100%	100%	46%	81%
2023	0.54	334.89	196.08	418.03	100%	100%	42%	79%
2023@	0.54	335.64	211.38	418.03	100%	100%	39%	76%

@ After changes in actuarial assumptions and/or methods.

After legislated changes in benefit provisions.

* (1) was estimated based on reported member contribution balances on data received by the actuary from ASPRS.

Derivation of Experience (Gain/Loss)

Actual experience will not (except by coincidence) coincide exactly with assumed experience. Gains and losses often cancel each other over a period of years, but sizable year-to-year fluctuations are common. Detail on the derivation of the experience gain/loss is shown below:

(1) UAAL * at start of year	\$ 96,971
(2) Normal cost from last valuation	8,081
(3) Employer contributions	23,989
(4) Interest accrual: $(1) \times 0.0715 + ((2) - (3)) \times 0.03575$	6,365
(5) Expected UAAL before changes: $(1) + (2) - (3) + (4)$	87,428
(6) Change for revised actuarial assumptions and/or valuation methods	16,047
(7) Change from benefit changes	0
(8) Expected UAAL after changes: $(5) + (6) + (7)$	103,475
(9) Actual UAAL at end of year	129,531
(10) Gain/loss: $(8) - (9)$	(26,056)
<hr/>	
(11) Gain/loss as percent of actuarial accrued liabilities at start of year	(5.2)%

* *Unfunded actuarial accrued liability.*

Gains/Losses by Risk Area

(for the fiscal year ended June 30, 2023)

Type of Risk Area	Gain/Loss in Period	
	\$ Millions	Percent of Liabilities
ECONOMIC RISK AREAS ...		
<i>Pay Increases.</i> If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	\$(18.0)	(3.6)%
<i>Investment Return.</i> If there is greater recognized investment return than assumed, there is a gain. If less return, a loss.	(2.9)	(0.6)%
NON-ECONOMIC RISK AREAS ...		
<i>Age & Service Retirements.</i> If members retire at older ages or with lower final average pays than assumed, there is a gain. If younger ages or higher average pays, a loss.	0.0	0.0 %
<i>Disability Retirements.</i> If there are fewer disabilities than assumed, there is a gain. If more, a loss.	0.0	0.0 %
<i>Death-in-Service Benefits.</i> If more liabilities are released by deaths-in-service, there is a gain. If smaller releases, a loss.	(0.3)	(0.1)%
<i>Withdrawal.</i> If more liabilities are released by other separations than assumed, there is a gain. If smaller releases, a loss.	0.0	0.0 %
Actuarial Gain/Loss	\$(21.2)	(4.3)%
<i>Other.</i> Gains and losses resulting from group size change, data adjustments, timing of financial transactions, and retiree mortality.	(4.9)	(0.9)%
TOTAL GAIN (OR LOSS) DURING PERIOD	\$(26.1)	(5.2)%



Statistical



ASPRS
ARKANSAS STATE POLICE
RETIREMENT SYSTEM



The System

Schedule of Revenues by Source

(for fiscal years ended June 30)

	Employer Contributions	Court & Driver's License Reinst. Fees	Insurance Premium Tax	Motor Vehicle Title Fees	Investment Income	Other Income	Total
2014	6,405,887	2,657,952	5,957,541	4,442,806	43,307,745	37,499	62,809,430
2015	6,409,752	2,234,350	6,574,376	4,565,652	6,131,684	94,820	26,010,634
2016	6,581,580	2,206,082	6,233,769	4,661,683	(210,045)	30,181	19,503,250
2017	6,416,736	2,139,475	6,693,915	4,667,895	31,484,250	43,045	51,445,316
2018	6,515,063	2,580,695	7,109,703	4,664,315	28,823,333	133,871	49,826,982
2019	6,727,409	1,864,132	8,035,962	4,598,976	17,031,466	27,532	38,285,476
2020	7,205,047	2,114,797	7,705,096	4,754,635	6,700,847	93,849	28,574,271
2021	7,706,274	2,646,549	7,139,013	5,250,891	101,415,154	40,986	124,198,867
2022	8,908,482	2,243,224	6,165,687	5,235,756	(46,247,489)	140,865	(23,553,475)
2023	\$10,197,986	\$1,942,333	\$6,952,517	\$4,838,091	\$31,210,504	\$58,344	\$55,199,775

Chart of Revenues by Source

(for fiscal years ended June 30)



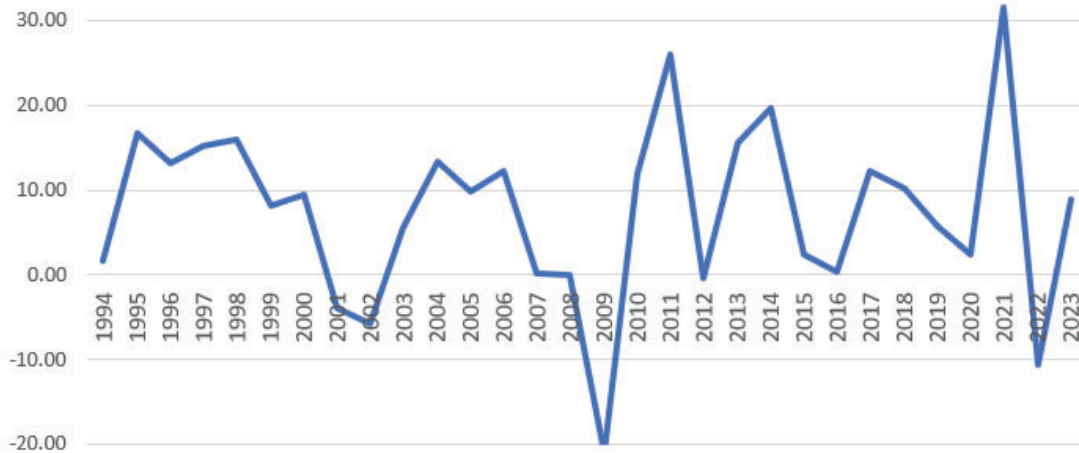
Schedule of Investment Return Rate

(for fiscal years ended June 30)

Year	Rate	Year	Rate
1994	1.75	2009	-20.89
1995	16.6	2010	11.95
1996	13.23	2011	26
1997	15.11	2012	-0.33
1998	15.91	2013	15.58
1999	8.16	2014	19.68
2000	9.42	2015	2.45
2001	-3.82	2016	0.3
2002	-5.72	2017	12.3
2003	5.53	2018	10.25
2004	13.42	2019	5.78
2005	9.85	2020	2.41
2006	12.24	2021	31.49
2007	18.01%	2022	-10.54%
2008	-4.45%	2023	8.83%

Chart of Investment Return Percentage Rate

(for fiscal years ended June 30)



Schedule of Expenses by Type

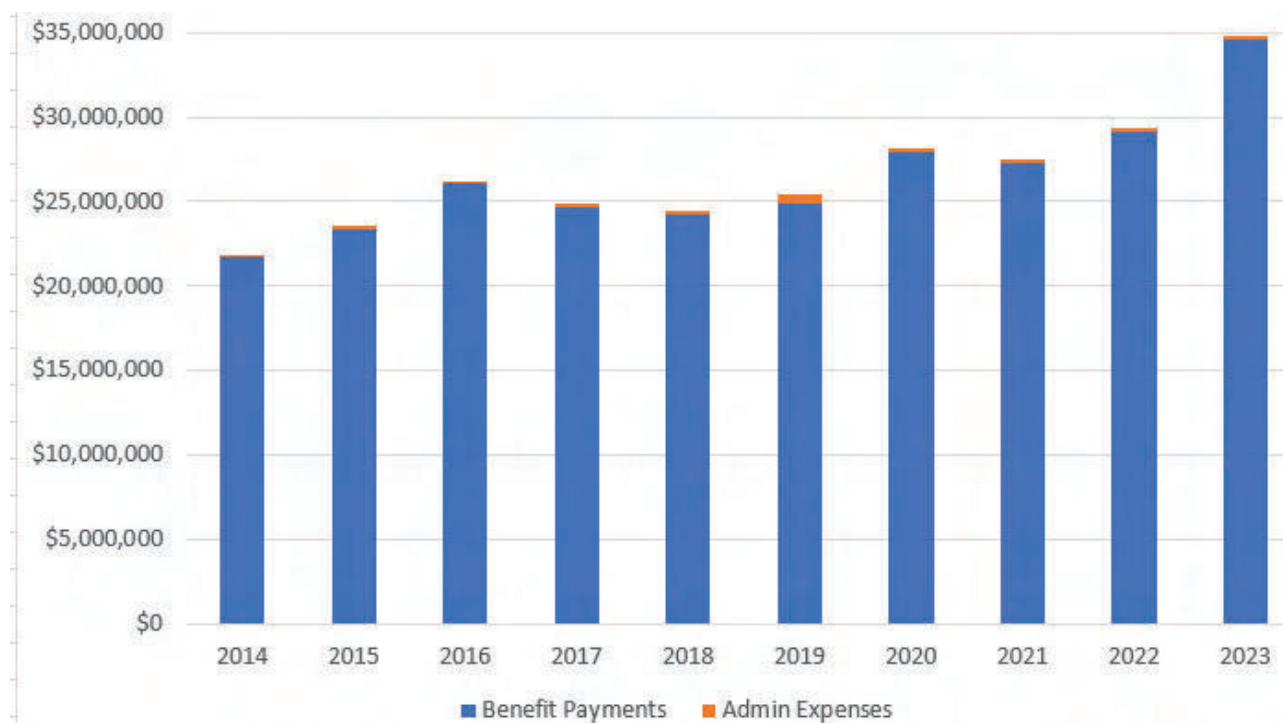
(for fiscal years ended June 30)

Year Ended June 30	Benefit Payments*	Administrative Expenses	Total
2014	21,688,239	189,658	21,877,896
2015	23,358,801	196,231	23,555,032
2016	26,035,466	205,342	26,240,808
2017	24,631,787	208,424	24,840,211
2018	24,185,419	228,430	24,413,849
2019	24,930,274	554,441	25,484,715
2020	27,934,142	195,463	28,129,605
2021	27,294,080	215,384	27,509,464
2022	29,149,508	229,348	29,378,856
2023	\$ 34,560,932	\$ 244,479	\$ 34,805,411

*Includes DROP and PAW distribution.

Chart of Expenses by Type

(for fiscal years ended June 30)



Schedule of Benefit Expenses by Type *

(for fiscal years ended June 30)

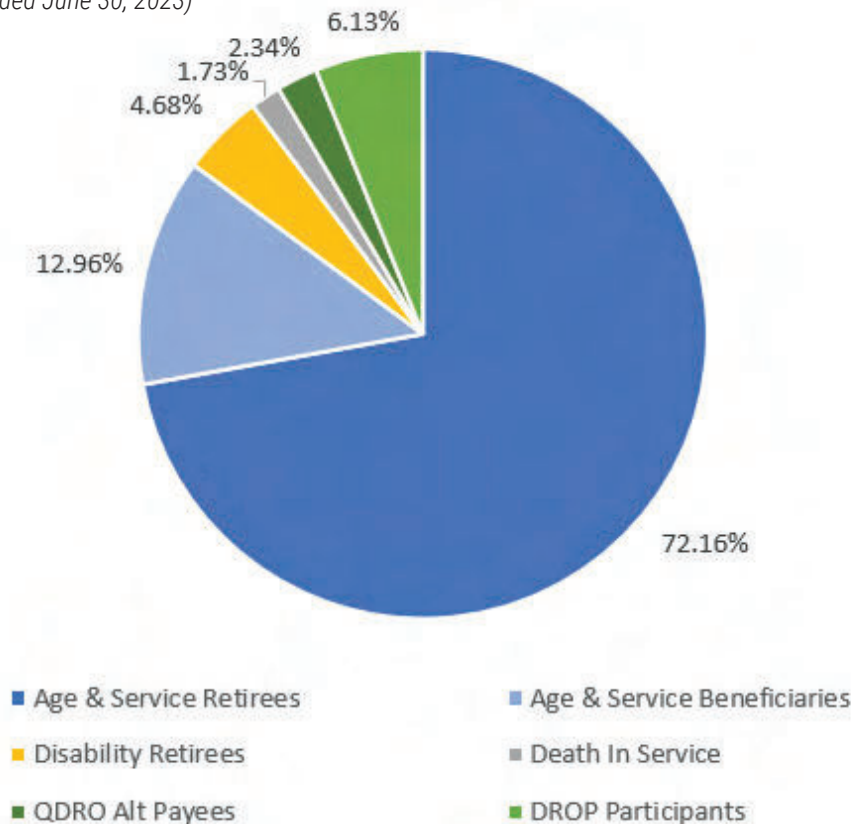
	Age & Service Retirees	Age & Service Beneficiaries	Disability Retirees	Disability Beneficiaries**	Death in Service**	QDRO Alternative Payees	DROP Participants
2014	17,368,858	2,034,215	27,648,624		74,640		
2015	17,963,207	2,325,900	1,016,556	13,944	76,872	471,880	3,126,156
2016	18,805,319	2,355,686	1,064,772	14,364	79,188	532,792	3,434,940
2017	18,769,461	2,320,702	1,350,504	7,140	491,004	607,318	3,281,616
2018	19,037,338	2,702,300	1,400,784	7,368	508,092	634,167	3,630,132
2019	19,922,625	2,942,626	1,413,720	0	510,120	637,202	3,334,908
2020	20,318,260	3,229,236	1,442,208	0	527,664	687,097	3,477,012
2021	20,799,930	3,312,885	1,461,060	0	500,460	687,593	3,387,900
2022	21,352,320	3,600,540	1,372,704	0	518,928	685,068	2,188,500
2023	\$22,230,444	\$3,993,408	\$1,442,540	\$-	\$533,340	\$719,472	\$1,888,296

*Expenses are based on annualized June 30 benefits amounts.

**Prior to 2015, disability beneficiaries were reported in the same category as death-in-service beneficiaries.

Chart of Benefit Expenses by Type (Percentages)

(for the fiscal year ended June 30, 2023)



* Figures in chart are rounded thus do not equal 100 percent.

Membership

The Arkansas State Police Retirement System includes active members in a two tier program, retired members, beneficiaries, participants in the Deferred Retirement Option Plan (DROP), and deferred members.

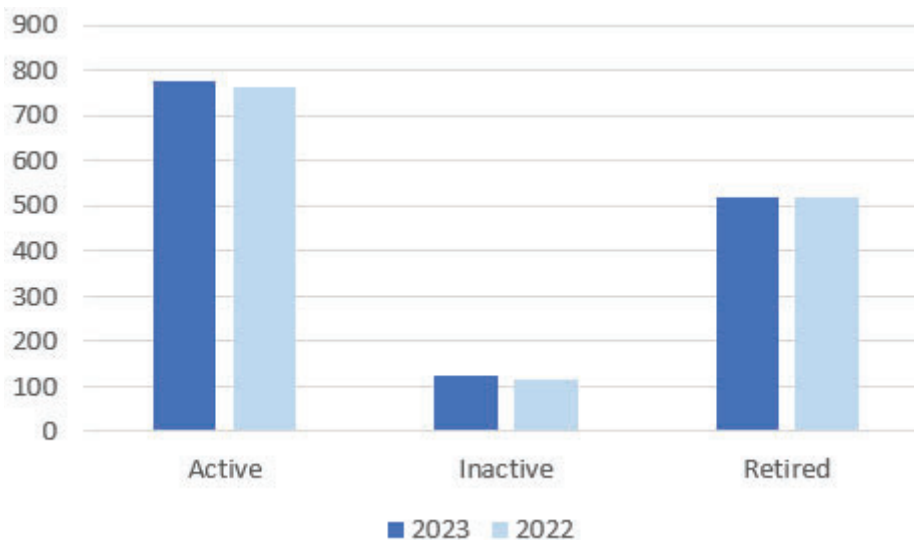
Members

(for fiscal years ended June 30)

	2023	2022
Retirees and Beneficiaries Receiving Benefits (includes DROP participants)	775	764
Terminated Plan Members Entitled to But Not Yet Receiving Benefits	123	115
Active Plan Members	517	519

Chart of Memberships by Type

(for fiscal years ended June 30)



Schedule of Retired Members by Type of Benefit

(for the fiscal year ended June 30, 2023)

Type of Benefit Being Paid	Number	Annual Pensions	Actuarial Acquired Liability
Age & Service Retirees			
Life	51	\$ 1,440,864	\$ 20,533,335
B-50	419	20,789,580	245,861,274
Totals	470	22,230,444	266,394,609
Beneficiaries of Age & Service Retirees			
B-50	148	3,993,408	36,619,982
Total Age & Service Retirees	618	26,223,852	303,014,591
Disability Retirees			
Life	23	435,768	5,940,415
B-50	32	986,772	12,239,451
Total Disability Retirees	55	1,422,540	18,179,866
Beneficiaries of Disability Retirees	0	0	0
Total Disability Retirees & Beneficiaries	55	1,422,540	18,179,866
Death-in-Service Beneficiaries	23	533,340	5,601,354
QDRO Alternate Payees	44	719,472	8,842,228
Total Retirees & Beneficiaries	740	28,899,204	335,638,039
DROP Participants (excluding DROP reserve)	35	1,888,296	35,963,147
Total Retirees, Beneficiaries, and DROP Participants	775	\$ 30,787,500	\$ 371,601,186

Chart of Retired Members and Beneficiaries by Type of Benefit (Percentages)

(for the fiscal year ended June 30, 2023)

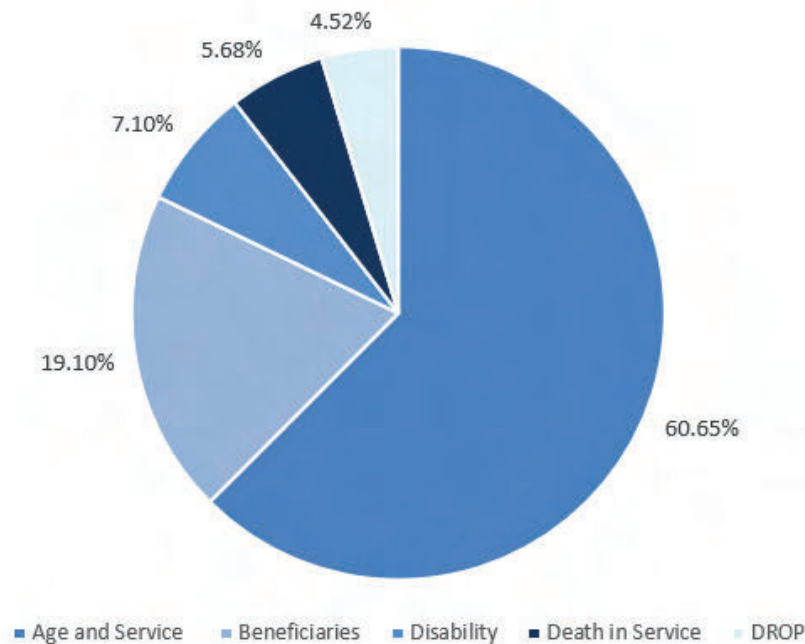
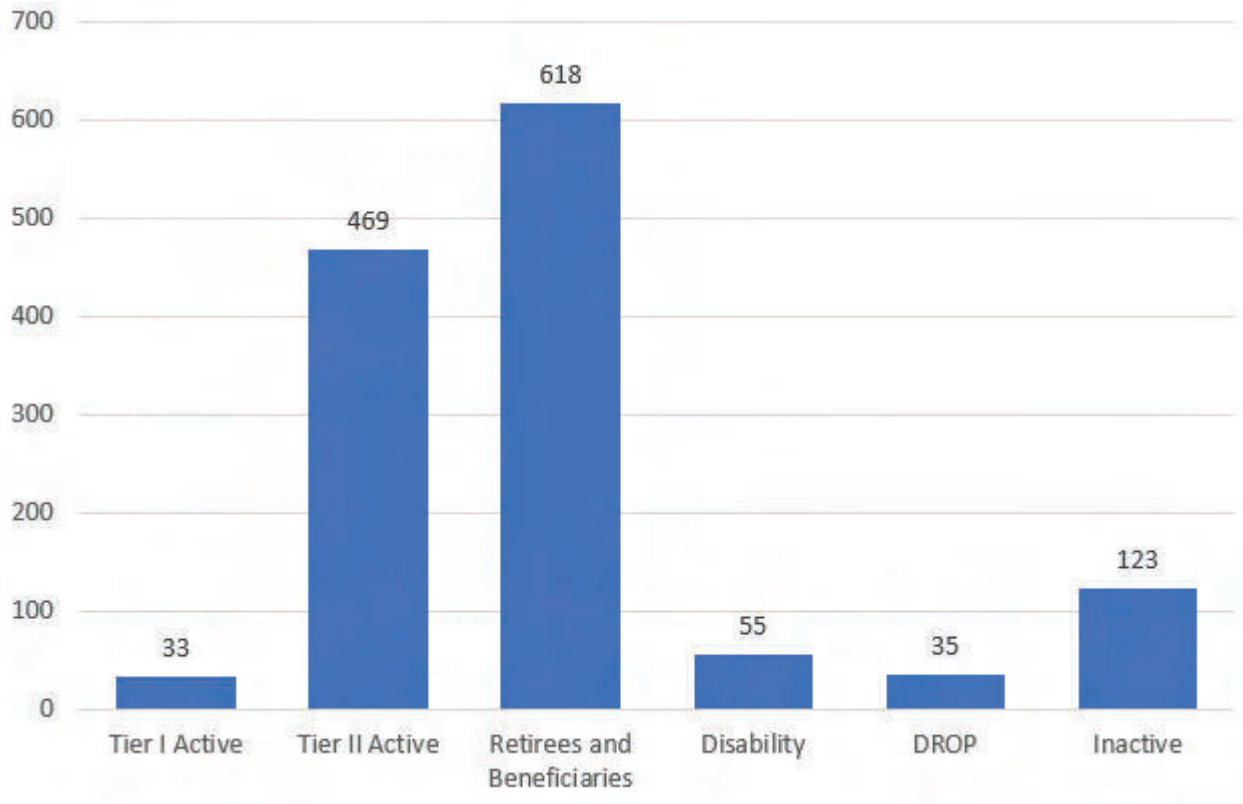


Chart of Members by Status in System

(for the fiscal year ended June 30, 2023)





A publication of the Arkansas State Police Retirement System