Michigan State Employees' Retirement System

A Pension and Other Employee Benefit Trust Fund of the State of Michigan

Comprehensive Annual Financial Report for the Fiscal Year Ended September 30, 2016

M S E R S

Prepared by:
Financial Services
for
Office of Retirement Services
P.O. Box 30171
Lansing, Michigan 48909-7671
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INTRODUCTORY SECTION

Certificate of Achievement

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Michigan State Employees' Retirement System

For its Comprehensive Annual Financial Report for the Fiscal Year Ended

September 30, 2015

Executive Director/CEO

Public Pension Standards Award

Public Pension Coordinating Council

Public Pension Standards Award
For Funding and Administration
_2016_

Presented to

Michigan Office of Retirement Services

In recognition of meeting professional standards for
plan funding and administration as
set forth in the Public Pension Standards.

Presented by the Public Pension Coordinating Council, a confederation of

National Association of State Retirement Administrators (NASRA)
National Conference on Public Employee Retirement Systems (NCPERS)
National Council on Teacher Retirement (NCTR)

Alan H. Winkle
Program Administrator

Letter of Transmittal

Michigan State Employees'
Retirement System
P.O. Box 30171
Lansing, Michigan 48909-7671
Telephone 517- 322-5103
Outside Lansing 1-800-381-5111

STATE OF MICHIGAN

RICK SNYDER, Governor

DEPARTMENT OF TECHNOLOGY, MANAGEMENT & BUDGET

January 18, 2017

The Honorable Rick Snyder
Governor, State of Michigan,

Members of the Legislature
State of Michigan,

Retirement Board Members
and
Members, Retirees and Beneficiaries

Ladies and Gentlemen:

We are pleased to present the comprehensive annual financial report of the Michigan State Employees' Retirement System (System) for fiscal year 2016.

INTRODUCTION TO REPORT

The System was established by legislation under Public Act 240 of 1943 (the Michigan State Employees' Retirement Act) and is administered by the Office of Retirement Services (ORS). The number of active and retired members and beneficiaries of the System is presented in Note 1 of the financial statements in the Financial Section of this report. The purpose of the System is to provide benefits for all State employees. The services performed by ORS staff provide benefits to members.

Responsibility

Responsibility for both the accuracy of the data and the completeness and fairness of the presentation, including all disclosures, rests with the leadership team of the System. To the best of our knowledge and belief, the enclosed data is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of operations of the System.

Internal Control Structure

The leadership team of the System is responsible for maintaining adequate internal accounting controls 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 preparation of financial statements in accordance with accounting principles generally accepted in the

Letter of Transmittal (Continued)

United States of America. The internal control structure is designed to provide reasonable assurance regarding the safekeeping of assets and reliability of all financial records.

The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits likely to be derived and that the valuation of costs and benefits requires estimates and judgments by management. This internal control structure includes maintaining written policies and procedures. Discussion and analysis of fiduciary net position and related additions and deductions are presented in the Management Discussion and Analysis which can be found immediately following the Independent Auditor's Report.

Independent Auditors and Actuary

The Office of the Auditor General (OAG), independent auditors, conducted an annual audit of the System. The independent auditor's report on the System's financial statements is included in the Financial Section of this report.

Statute requires that an annual actuarial valuation be conducted. The purpose of the valuation is to evaluate the mortality, service, compensation and other financial experience of the System and to recommend employer-funding rates for the subsequent year. The annual actuarial valuation was completed by Gabriel Roeder Smith & Company for the fiscal year ended September 30, 2015. Actuarial certification and supporting statistics are included in the Actuarial Section of this report.

Management's Discussion and Analysis (MD&A)

Generally Accepted Accounting Principles (GAAP) require that management provide a narrative introduction, overview, and analysis to accompany the Basic Financial Statements in the form of MD&A. This letter of transmittal is intended to complement MD&A and should be read in conjunction with it. The MD&A can be found immediately following the Independent Auditor's Report.

PROFILE OF THE GOVERNMENT

The System was established by Public Act 240 of 1943 and is administered by a nine-member board. Executive order 2015-13 created a State of Michigan Retirement Board responsible for the functions, duties and responsibilities of the State Employees' Retirement System, the Judges Retirement System and the Military Retirement Provisions. Public Act 216 of 1974 eliminated the requirement for member contributions and provided for financing by legislative appropriation and investment earnings. Effective March 31, 1997, Public Act 487 of 1996 closed the plan to new applicants. All new employees become members of the State's defined contribution plan. The public act also allows for returning employees and members who left state employment on or before March 31, 1997, to elect the defined benefit plan instead of the defined contribution plan. PA 264 of 2011 granted a voluntary election regarding their pension. Under the reform, members voluntarily chose to increase or stop their contributions to the pension fund.

ECONOMIC CONDITIONS AND OUTLOOK

Despite challenging economic times, the System continues to show steady performance over the long-term.

Investments

The State Treasurer is the investment fiduciary and custodian of all investments of the System pursuant to State law. The primary investment objective is to maximize the rate of return on the total investment portfolio, consistent with a high degree of prudence and sufficient diversity to eliminate inordinate risks and to meet the actuarial assumption for the investment return rate. The investment activity for the year produced a total rate of return on the portfolio of 7.6% for the Pension Plan and 7.5% for the Other Postemployment Benefits (OPEB) Plan. For the last five years, the System has experienced an annualized rate of return of 10.2% for the Pension Plan and 9.7% for the Other Postemployment Benefits (OPEB) Plan. A summary of asset allocation and rates of return can be found in the Investment Section of this report.

Accounting System

Transactions of the System are reported on the accrual basis of accounting. Revenues are recorded when earned, and expenses are recorded when incurred. Participants' benefits are recorded when payable by law. We believe that the accounting and administrative internal controls established by the System provide reasonable assurance the System is carrying out its responsibilities in safeguarding its assets, in maintaining the reliability of the financial records for preparing financial statements, and in maintaining accountability for its assets.

Funding

Funds are derived from the excess of additions to plan net position over deductions from plan net position. Funds are accumulated by the System to meet future benefit obligations to retirees and beneficiaries. The percentage computed by dividing the actuarial value of assets by the actuarial accrued liability is referred to as the "funded ratio." This ratio provides an indication of the funding status of the System and generally, the greater this percentage, the stronger the System.

***Pension* –** The actuarial value of the assets and actuarial accrued liability of the System were $10.4 billion and $16.2 billion, respectively, resulting in a funded ratio of 64.2% on September 30, 2015. A historical perspective of funding levels for the Pension Plan is presented on the Schedule of Funding Progress in the Statistical Section of this report.

***Postemployment Benefits* –** Prefunding for postemployment benefits began in fiscal year 2013. The actuarial value of the assets and actuarial accrued liability were $1.3 billion and $9.0 billion respectively resulting in a funded ratio of 14.5% at September 30, 2015. A historical perspective of funding levels is presented on the Schedule of Funding Progress in the Required Supplementary Information of the Financial Section in this report.

MAJOR GOALS ACCOMPLISHED

Loan Policy Reform – As of January 1, 2016, all participants in the State of Michigan 401(k) and 457 Plans now abide by the same one-loan rule. Active loan balances declined 12.5% from 2014 to 2015.

Customer Education and Branding – ORS developed a comprehensive plan to better educate and support its members. The plan included the creation and introduction of a new logo. The new logo presents ORS as a trusted partner helping members navigate the journey to retirement success. This will be an exciting story and an exciting time that will bring our organization closer together and closer to the people who rely on ORS in their retirement journey.

New Intranet Launched – ORS deployed a new intranet in SharePoint to engage its employees with a portal to the most current information and provide opportunities to collaborate and interact with each other. Information and tools were consolidated and reorganized to improve accessibility and communication throughout the business.

Customer Needs and Expectations Study – ORS surveyed active and retired customers to improve its understanding of what customers need and expect. The study's purpose was to measure customer perceptions, evaluate satisfaction levels with various services, and determine the areas in need of change. ORS will use the findings to set priorities and develop improvements in its products and services.

ORS Delivers 1095-B Statements – This was the first year that ORS was required to deliver 1095-B health coverage statements to all non-Medicare PPO healthcare plan recipients. ORS executed a communication plan that included FAQ development, staff training, targeted email communication to customers, web content, and the 1095-B form development in compliance with IRS guidelines. ORS sent the 1095-B statements to approximately 52,000 recipients the first week of February 2016. As a result of the proactive communication plan and clear communication, ORS received contact on this topic from only 1,000 customers in January 2016 thru April 2016.

Letter of Transmittal (Continued)

HONORS

Public Pension Standards Award – ORS has recently been awarded the 2016 Public Pension Coordinating Council Standards Award from the Public Pension Coordinating Councils Standards Program (PPCC) for both funding and administration. ORS has received this award every year since 2004. The PPCC Standards reflect expectations for public retirement system management and administration, and serve as a benchmark for all defined benefit public plans to be measured.

Government Finance Officers Association Award – The Government Finance Officers Association (GFOA) of the United States and Canada awarded the retirement system with the Certificate of Achievement for Excellence in Financial Reporting for our fiscal year 2015 Comprehensive Annual Financial Report (CAFR). This marks the 25th consecutive year ORS has received this prestigious award.

ACKNOWLEDGEMENTS

The preparation of this report was accomplished with the dedication and cooperation of many people. It is intended to provide complete and reliable information as a basis for making management decisions, as a means of determining compliance with legal provisions, and as a means for determining responsible stewardship of the funds of the System.

We would, therefore, like to express our appreciation for the assistance given by staff, the advisors and the many people who contributed to its preparation. We believe their combined efforts have produced a report that will enable employers and plan members to better evaluate and understand the Michigan Public School Employees' Retirement System. Their cooperation contributes significantly to the success of the System.

Sincerely,

David B. Behen, Director
Department of Technology, Management & Budget

Kerrie Vanden Bosch, Director
Office of Retirement Services

INTRODUCTORY SECTION

Administrative Organization

Retirement Board Members*

Judge Mark T. Boonstra
General Public
Term Expires Dec. 31, 2019

John Gnodke
Ex-officio Member Representing
State Personnel Director

Craig Murray
Ex-officio Member Representing
Auditor General

Anne Marie Storberg
Ex-officio Member Representing
State Treasurer

Laurie Hill - Chair
Retired State Employee
Term Expires Dec. 31, 2019

Judge David H. Sawyer
Active Judge
Term Expires Dec. 31, 2017

Matthew Fedorchuk
Active State Employee
Term Expires Dec. 31, 2016

Molly Jason
Ex-officio Member Representing
Attorney General

Lt. John Wojcki
Michigan National Guard
Term Expires Dec. 31, 2018

*Statute provides that board members may continue to serve after their term expires until they are replaced or reappointed.

Advisors and Consultants

Actuaries
Gabriel Roeder Smith & Co.
Mita D. Drazilov
Southfield, Michigan

Legal Advisor
Bill Schuette
Attorney General
State of Michigan

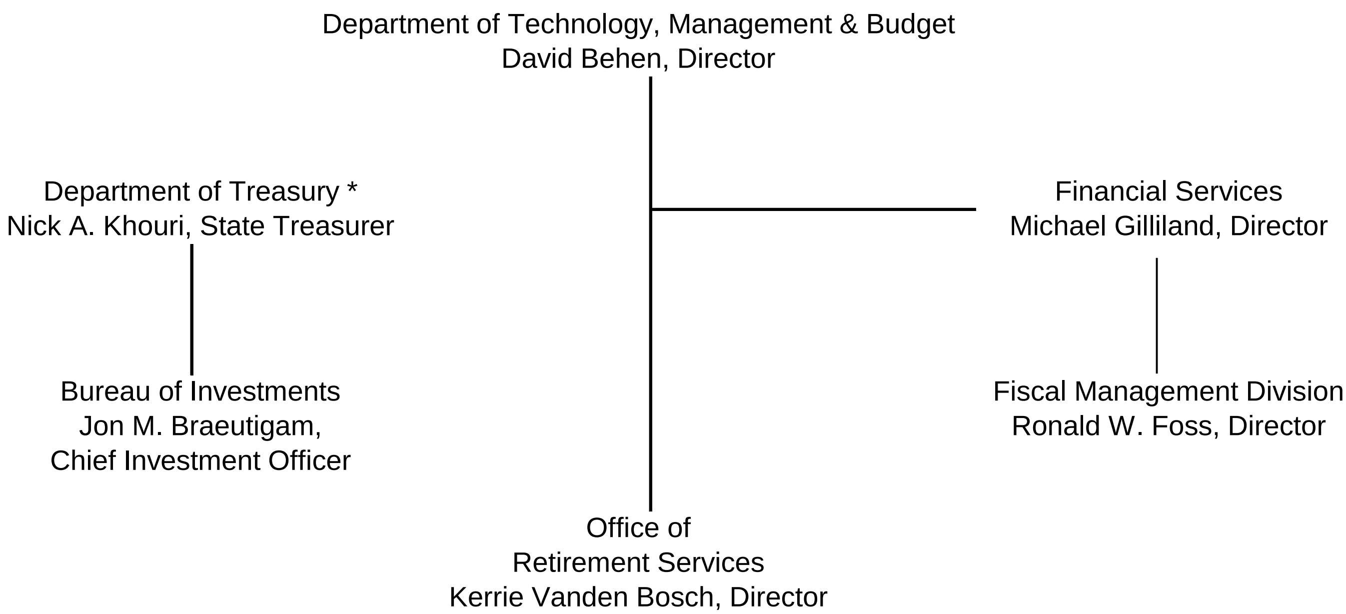
Independent Auditors
Doug A. Ringler, C.P.A., C.I.A.
Auditor General
State of Michigan

Investment Manager and Custodian
Nick A. Khouri
State Treasurer
State of Michigan

Investment Performance Measurement
State Street Corporation
State Street Investment Analytics
Boston, MA

Administrative Organization (Continued)

Organization Chart



*The investments of the System are managed by the Michigan Department of Treasury. Information on the investments and the fiduciary, Michigan Department of Treasury, can be found in the Investment Section, Introduction. In addition, see the Investment Section, Schedule of Investment Fees and Schedule of Investment Commissions, for information regarding the investment fees and commissions paid as well as investment professionals utilized by the System.

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FINANCIAL SECTION

Independent Auditor’s Report
Management’s Discussion and Analysis
Basic Financial Statements
Notes to Basic Financial Statements
Required Supplementary Information
Note to Required Supplementary Information
Supporting Schedules

OAG
Office of the Auditor General
Doug A. Ringler, CPA, CIA
Auditor General
201 N. Washington Square, Sixth Floor • Lansing, Michigan 48913 • Phone: (517) 334-8050 • www.audgen.michigan.gov

Independent Auditor's Report on the Financial Statements
and Other Reporting Required by *Government Auditing Standards*

Mrs. Laurie Hill, Chair
State of Michigan Retirement Board
and
Mr. David B. Behen, Director
Department of Technology, Management, and Budget
and
Ms. Kerrie L. Vanden Bosch, Director
Office of Retirement Services

Dear Mrs. Hill, Mr. Behen, and Ms. Vanden Bosch:

Report on the Financial Statements
We have audited the accompanying financial statements of the Michigan State Employees' Retirement System as of and for the fiscal year ended September 30, 2016 and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements
Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility
Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion
In our opinion, the financial statements referred to in the first paragraph present fairly, in all material respects, the fiduciary net position of the Michigan State Employees' Retirement System as of September 30, 2016 and the changes in fiduciary net position for the fiscal year then ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter
As discussed in Note 6 to the financial statements, the Michigan State Employees' Retirement System adopted Governmental Accounting Standards Board Statement No. 72, *Fair Value Measurement and Application*, for the fiscal year ended September 30, 2016. Our opinion is not modified with respect to this matter.

Mrs. Laurie Hill, Chair
Mr. David B. Behen, Director
Ms. Kerrie L. Vanden Bosch, Director
Page 2

Other Matters
Required Supplementary Information
Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, schedule of funding progress - other postemployment benefit plan, schedule of changes in net pension liability, schedule of net pension liability, schedules of contributions, schedule of investment returns, and related notes, as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information
Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the System's basic financial statements. The supporting schedules and the introductory, investment, actuarial, and statistical sections are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The supporting schedules are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supporting schedules are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The introductory, investment, actuarial, and statistical sections have not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

Other Reporting Required by *Government Auditing Standards*
In accordance with *Government Auditing Standards*, we will also issue a report on our consideration of the System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the System's internal control over financial reporting and compliance.

Sincerely,

Doug Ringler

Doug Ringler
Auditor General
January 18, 2017

FINANCIAL SECTION

Management's Discussion and Analysis

Our discussion and analysis of the Michigan State Employees' Retirement System's (System) financial performance provides an overview of the System's financial activities for the fiscal year ended September 30, 2016. Please read it in conjunction with the transmittal letter in the Introductory Section on page 6 and the basic financial statements, which follow this discussion.

FINANCIAL HIGHLIGHTS

- System assets exceeded liabilities at the close of fiscal year 2016 by $12.6 billion (reported as *net position restricted for Pension Benefits and OPEB*). Fiduciary net position is restricted to meet future benefit payments.
- Additions for the year were $2.4 billion, which are comprised primarily of contributions of $1.5 billion and investment gains of $.9 billion.
- Deductions increased over the prior year from $1.8 billion to $1.8 billion or 1.5%. This increase is the result of increased pension and OPEB benefit payments, contribution refunds, and administrative expenses.

THE STATEMENT OF PLAN FIDUCIARY NET POSITION AND THE STATEMENT OF CHANGES IN PLAN FIDUCIARY NET POSITION

This Comprehensive Annual Financial Report (CAFR) consists of two financial statements; *The Statement of Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position* (page 20) and *The Statement of Changes in Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position* (page 21). These financial statements report information about the System, as a whole, and about its financial condition that should help answer the question: Is the System, as a whole, better off or worse off as a result of this year's activities? These statements include all assets and liabilities using the economic resources measurement focus and the accrual basis of accounting. Under the accrual basis of accounting, all revenues and expenses are taken into account regardless of when cash is received or paid.

The Statement of Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position presents all of the System's assets and liabilities, with the difference between the two reported as fiduciary net position. Over time, increases and decreases in fiduciary net position measure whether the System's financial position is improving or deteriorating. *The Statement of Changes in Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position* presents how the System's fiduciary net position changed during the most recent fiscal year. These two financial statements should be reviewed along with the Schedule of Net Pension Liability (page 49), Schedule of Funding Progress – Other Postemployment Benefit Plan (page 48), and Schedules of Contributions (pages 50-51) to determine whether the System is becoming financially stronger or weaker.

Management's Discussion and Analysis (Continued)

FINANCIAL ANALYSIS

System total assets as of September 30, 2016, were $13.5 billion and were mostly comprised of cash, investments, and contributions due from employers. Total assets increased $667.4 million or 5.2% between fiscal years 2015 and 2016, due primarily to higher equity in common cash.

Total liabilities as of September 30, 2016, were $897.9 million and were comprised of warrants outstanding, accounts payable, unearned revenue, and obligations under securities lending. Total liabilities increased $119.3 million or 15.3% between fiscal years 2015 and 2016 primarily due to increased obligations under securities lending.

System assets exceeded its liabilities at the close of fiscal year 2016 by $12.6 billion. Total fiduciary net position restricted for pension and OPEB increased $548.1 million or 4.6% from the previous year, primarily due to net investment gains.

Plan Fiduciary Net Position
(in thousands)

	2016	2015	Increase (Decrease)
Assets			
Equity in common cash	$ 73,842	$ 5,396	1,268.5 %
Receivables	154,090	171,440	(10.1)
Investments	12,378,716	11,923,319	3.8
Securities lending collateral	873,388	712,497	22.6
Total Assets	13,480,035	12,812,652	5.2
Liabilities			
Warrants outstanding	53	33	60.6
Unearned revenue	10	12	(16.7)
Accounts payable and other accrued liabilities	25,660	29,240	(12.2)
Amounts due to other funds		36,948	(100.0)
Obligations under securities lending	872,187	712,391	22.4
Total Liabilities	897,910	778,623	15.3
Net Position Restricted for Pension Benefits and OPEB	$12,582,125	$ 12,034,029	4.6 %

ADDITIONS TO PLAN FIDUCIARY NET POSITION

The reserves needed to finance pension and other postemployment benefits are accumulated through the collection of employer and employee contributions and through earnings on investments. Contributions and net investment income for fiscal year 2016 totaled approximately $2.4 billion.

Total additions for fiscal year 2016 increased approximately $574.1 million or 31.9% from those of fiscal year 2015 due primarily to increased net investment income. Total contributions decreased between fiscal years

2015 and 2016 by $79.7 million or 5.6%, while net investment income increased $663 million or 252.6%. The Investment Section of this report reviews the results of investment activity for fiscal year 2016.

DEDUCTIONS FROM PLAN FIDUCIARY NET POSITION

The primary expenses of the System include the payment of pension benefits to members and beneficiaries, payment for health, dental and vision benefits, refund of contributions, and the cost of administering the System. Total deductions for fiscal year 2016 were $1.8 billion, an increase of 1.5% over fiscal year 2015 deductions.

The health, dental and vision care expenses during the year increased by $1.7 million or .3%, from $500.6 million to $502.3 million. The payment of pension benefits increased by $24.3 million or 1.9% between fiscal years 2015 and 2016. In fiscal year 2016, the increase in pension benefit expenses resulted from an increase in retirees (585) and an increase in benefit payments to retirees. Administrative expenses increased by $1.3 million or 4.0% between fiscal years 2015 and 2016, primarily due to increased health administrative fees. Refunds and transfers to other systems increased by $7 thousand or 4.3% between fiscal years 2015 and 2016.

Changes in Plan Fiduciary Net Position
(in thousands)

	2016	2015	Increase (Decrease)
Additions			
Member contributions	$ 85,327	$ 84,376	1.1 %
Employer contributions	1,334,127	1,413,856	(5.6)
Other governmental contributions	68,990	49,292	40.0
Net investment income (loss)	883,648	250,622	252.6
Transfer from other systems	3	1	200.0
Miscellaneous income	319	166	92.2
Total additions	2,372,415	1,798,313	31.9
Deductions			
Pension benefits	1,289,598	1,265,335	1.9
Health care benefits	502,317	500,630	0.3
Refunds and transfers to other systems	169	162	4.3
Administrative and other expenses	32,235	30,983	4.0
Total deductions	1,824,320	1,797,109	1.5
Net Increase (Decrease) in Net Position	548,095	1,203	45,460.7
Net Position Restricted for Pension Benefits and OPEB:			
Beginning of Year	12,034,029	12,032,825	0.0
End of Year	$ 12,582,125	$ 12,034,029	4.6 %

Management's Discussion and Analysis (Continued)

RETIREMENT SYSTEM AS A WHOLE

The System's overall Fiduciary Net Position experienced a increase in fiscal year 2016. The System's rate of return for the Pension Plan's investments increased an overall 5.0% from a 2.6% return in fiscal year 2015 to a 7.6% return during fiscal year 2016. The System's rate of return for the OPEB Plan's investments increased an overall 5% from a 2.5% return in fiscal year 2015 to 7.5% return during fiscal year 2016. Management believes that the System remains financially sound and positioned to meet its ongoing benefit obligations due, in part, to a prudent investment program, cost controls, and strategic planning.

CONTACTING SYSTEM FINANCIAL MANAGEMENT

This financial report is designed to provide the Retirement Board, our membership, taxpayers, investors, and creditors with a general overview of the System's finances and to demonstrate the System's accountability for the money it receives. If you have any questions about this report or need additional financial information, contact the Office of Retirement Services, P.O. Box 30171, Lansing, MI 48909-7671.

Statement of Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position As of September 30, 2016 (in thousands)

	Pension Plan	OPEB Plan	Total
Assets:			
Equity in common cash	$ 34,426	$ 39,416	$ 73,842
Receivables:			
Amounts due from members	353		353
Amounts due from employers	49,193	37,589	86,781
Amounts due from federal agencies		41,115	41,115
Amounts due from other funds	11		11
Amounts due from other		14,053	14,053
Amounts due from employer long term	10,163		10,163
Interest and dividends	1,423	191	1,614
Total receivables	61,142	92,948	154,090
Investments:			
Short term investment pools	353,905	36,967	390,872
Fixed income pools	1,438,272	199,014	1,637,286
Domestic equity pools	2,853,533	394,937	3,248,470
Real estate and infrastructure pools	1,163,825	160,980	1,324,805
Private equity pools	1,675,685	232,086	1,907,770
International equity pools	1,737,107	240,496	1,977,603
Absolute return pools	1,661,890	230,019	1,891,909
Total investments	10,884,218	1,494,498	12,378,716
Securities lending collateral	766,766	106,621	873,388
Total assets	11,746,552	1,733,483	13,480,035
Liabilities:			
Warrants outstanding	52	2	53
Unearned revenue		10	10
Accounts payable and other accrued liabilities	446	25,214	25,660
Obligations under securities lending	765,712	106,475	872,187
Total liabilities	766,209	131,701	897,910
Net Position Restricted for Pension Benefits and OPEB:	$ 10,980,343	$ 1,601,782	$ 12,582,125

The accompanying notes are an integral part of these financial statements.

Basic Financial Statements (continued)

Statement of Changes in Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position
For Fiscal Year Ended September 30, 2016 (in thousands)

	Pension Plan	OPEB Plan	Total
Additions:			
Contributions:			
Member contributions	$ 46,666	$ 38,661	$ 85,327
Employer contributions	716,465	617,662	1,334,127
Other governmental contributions		68,990	68,990
Total contributions	763,131	725,314	1,488,444
Investment income (loss):			
Net increase (decrease) in fair value of investments	566,541	74,335	640,875
Interest, dividends, and other	235,243	30,354	265,597
Investment expenses:			
Real estate operating expenses	(258)	(33)	(291)
Other investment expenses	(36,186)	(4,636)	(40,822)
Securities lending activities:			
Securities lending income	19,106	2,456	21,562
Securities lending expenses	(2,917)	(356)	(3,273)
Net investment income (loss)	781,528	102,120	883,648
Transfers from other systems	3		3
Miscellaneous income	120	199	319
Total additions	1,544,782	827,633	2,372,415
Deductions:			
Benefits paid to plan members and beneficiaries:			
Retirement benefits	1,289,598		1,289,598
Health benefits		455,156	455,156
Dental/vision benefits		42,961	42,961
Personal health care		4,151	4,151
Heath reimbursement account		48	48
Refunds of contributions	130	39	169
Administrative and other expenses	6,629	25,606	32,235
Total deductions	1,296,357	527,962	1,824,319
Net Increase (Decrease) in Net Position	248,425	299,671	548,096
Net Position Restricted for Pension Benefits and OPEB:			
Beginning of Year	10,731,918	1,302,111	12,034,029
End of Year	$ 10,980,343	$ 1,601,782	$ 12,582,125

The accompanying notes are an integral part of these financial statements.

NOTES TO BASIC FINANCIAL STATEMENTS
SEPTEMBER 30, 2016

NOTE 1- PLAN DESCRIPTION

ORGANIZATION

The Michigan State Employees' Retirement System (System) is a single-employer, state-wide, defined benefit public employee retirement plan governed by the State of Michigan (State) and created under Public Act 240 of 1943, as amended. Section 2 of this act establishes the board's authority to promulgate or amend the provisions of the System. Executive Order 2015-13 signed by the Governor on October 27, 2015 established the State of Michigan Retirement Board. The executive order establishes the board's authority to promulgate or amend the provision of the System. The board consists of nine members:

- The Attorney General
- The State Treasurer
- The Legislative Auditor General
- The State Personnel Director
- One member or retirant of the State Employees' Retirement System appointed by the Governor
- One member of the Judges Retirement System appointed by the Governor
- One current or former officer or enlisted person in the Michigan military Establishment who is a member or retirant under the Military Retirement Provisions appointed by the Governor
- One retirant member of the State Employees' Retirement System appointed by the Governor.
- One member of the general public appointed by the Governor.

The System's pension plan was established by the State to provide retirement, survivor and disability benefits to the State's government employees. In addition, the System's OPEB plan provides all retirees with the option of receiving health, dental, and vision coverage under the Michigan State Employees' Retirement Act. The System is a qualified pension trust fund under section 401(a) of the Internal Revenue Code. By statute, employees of the following employers are also covered by this plan: American Legion, American Veterans, Veterans of Foreign Wars, Disabled American Veterans, Mackinac Island State Park, Marine Corps League, Michigan Bar Association, Business Enterprise Program, Third Circuit Court, Recorders Court and 36th District Court. Although the System reports information for several small employers, the State is legally responsible for almost all contractually required contributions to the System. This level of responsibility is ongoing and is unlikely to change significantly in the foreseeable future. Therefore, the reporting requirements for a single employer plan have been adopted.

The System's financial statements are included as a pension and other employee benefit trust fund in the State of Michigan Comprehensive Annual Financial Report.

The System is administered by the Office of Retirement Services within the Michigan Department of Technology, Management & Budget. The Department Director appoints the Office Director, with whom the general oversight of the System resides. The State Treasurer serves as the investment officer and custodian for the System.

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

MEMBERSHIP

At September 30, 2016, the System's membership consisted of the following:

Inactive plan members or their beneficiaries currently receiving benefits:	
Regular benefits	48,479
Survivor benefits	7,155
Disability benefits	3,404
Total	59,038
Inactive plan members entitled to but not yet receiving benefits:	4,225
Active plan members:	
Vested	12,124
Non-vested	257
Total	12,381
Total plan members	75,644

At September 30, 2003, the System recognized 116 participants in the Defined Contribution (DC) Plan who elected to retire under the Early Out Retirement program. This program provided a .25% incentive for those DC members who qualified, which will be provided by the System. These 116 participants have not been included in the pension membership schedule above.

Enrollment in the health plan is voluntary. The number of participants is as follows:

Health, Dental and Vision Plan	
Eligible participants	58,716
Participants receiving benefits:	
Health	50,732
Dental	51,559
Vision	51,421
Defined Contribution participants receiving benefits:	
Health	959
Dental	1036
Vision	1027
Active members[1, 2]	49,020
Inactive vested members[2]	6,009

[1] Active member count includes Personal Healthcare Fund members eligible for the $1,000/$2,000 lump sum at termination benefit.

[2]Active and Inactive vested members are calculated based on fiscal year 2015 data.

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BENEFIT PROVISIONS – PENSION

Introduction

Benefit provisions of the defined benefit (DB) pension plan are established by State statute, which may be amended. Public Act 240 of 1943, State Employees' Retirement Act, as amended, establishes eligibility and benefit provisions for the defined benefit pension plan. Retirement benefits are determined by final average compensation and years of service.

Members are eligible to receive a monthly benefit when they meet certain age and service requirements. The System also provides duty disability, nonduty disability and survivor benefits.

A member who has separated from employment may request a refund of his or her member contribution account. A refund may cancel a former member's rights to future benefits. However, former members who return to employment and who previously received a refund of their contributions may reinstate their service through repayment of the refund upon satisfaction of certain requirements.

Effective March 31, 1997, Public Act 487 of 1996 closed the plan to new entrants. All new employees become members of the defined contribution plan. The Public Act allows returning employees and members who left State employment on or before March 31, 1997, to elect the defined benefit plan instead of the defined contribution plan.

Public Act 185 of 2010, established a pension supplement. Members who retired under the retirement incentive of the legislation agreed to forfeit accumulated leave balances, excluding banked leave time; in exchange they receive a pension supplement for 60 months to their retirement allowance payments equal to 1/60 of the amount forfeited from funds, beginning January 1, 2011.

Pension Reform 2012

On December 15, 2011, the Governor signed Public Act 264 of 2011 into law. The legislation granted members a choice regarding their future retirement plan. They had the following options:

- **Option 1: DB Classified** Members voluntarily elected to remain in the DB plan for future service and contribute 4% of their annual compensation to the pension fund until they terminate state employment. The 4% contribution began on April 1, 2012.
- **Option 2: DB 30** Members voluntarily elected to remain in the DB plan for future service and contribute 4% of pay until they reach 30 years of service. When they reach 30 years of service, they will switch to the State's DC plan. The 4% contribution began April 1, 2012, and continues until they switch to the DC plan or terminate employment, whichever comes first.
- **Option 3: DB/DC Blend** Members voluntarily elected not to pay the 4% and therefore became participants in the DC plan for future service beginning April 1, 2012. As a DC plan participant they receive a 4% employer contribution to their 401(k) account and are eligible for an additional dollar-for-dollar employer match of up to 3% of pay to the plan.

Deferred members of the DB plan (with 10 or more years of service) who are reemployed by the State on or after January 1, 2012, become participants in the DC plan. Their pension calculation is determined by their final average compensation (FAC) and years of service as of March 31, 2012. They retain their eligibility for the retiree health insurance premium subsidy offered by the State.

Former nonvested members of the DB plan (with less than 10 years of service) who are reemployed by the State on or after January 1, 2012 and before January 1, 2014, become participants in the DC plan. When they have earned sufficient service credit for vesting (10 years) they would be eligible for a pension based on their FAC and years of service in the DB plan as of March 31, 2012. They retain their eligibility for the retiree health insurance premium subsidy offered by the State.

Former nonvested members (with less than 10 years of service) of the DB plan who are reemployed by the State on or after January 1, 2014 become members of the DC plan. Any service credit previously earned would count towards vesting for the DC plan. They will not be eligible for any pension or retiree health insurance coverage premium but will become a participant in the Personal Healthcare Fund where they will contribute up to 2% of their compensation to a 401(k) or 457 account, earning a matching 2% employer contribution. They will also receive a credit into a health reimbursement account (HRA) at termination if they terminate employment with at least 10 years of service. The credit will be $2,000 for participants who are at least 60 years old or $1,000 for participants who are less than 60 years old at termination.

Regular Retirement

The retirement benefit is based on a member's years of credited service (employment) and FAC. The normal benefit equals 1.5% of a member's FAC multiplied by the years and partial year of credited service and is payable monthly over the member's lifetime.

Under PA 264 of 2011, FAC is initially determined as the annual average of the highest three years of compensation (including overtime paid before January 1, 2012, but excluding overtime paid after December 31, 2011). If the end date for the initial FAC calculation is between January 1, 2012, and January 1, 2015, then a prorated amount of post-2008 average overtime will be added to the initial FAC calculation. If the end date for the initial FAC calculation is January 1, 2015, or later, then an annual average of overtime – for the six-year period ending on the FAC calculation date – will be added to that initial FAC calculation to get the final FAC number.

For members who switch to the DC plan for future service, the pension calculation FAC times 1.5% times years of service) will be determined as of the point the member switches to the DC plan. If the FAC period includes the date of the switch to the DC plan, then the FAC will include up to 240 hours of accrued annual leave multiplied by the rate of pay as of the date of the switch. The hours will be paid at separation.

A member may retire and receive a monthly benefit after attaining:

- age 60 with 10 or more years of credited service; or
- age 55 with 30 or more years of credited service; or
- age 55 with at least 15 but less than 30 years of credited service. The benefit allowance is permanently reduced 0.5% for each month from the member's age on the effective date of retirement to the date the member will attain age 60.

Employees in covered positions are eligible for supplemental benefits and may retire after attaining:

- age 51 with 25 or more years in a covered position; or
- age 56 with 10 or more years in a covered position.

In either case, the three years immediately preceding retirement must have been in a covered position. Employees in covered positions are responsible for the custody and supervision of inmates.

Employees of closing Department of Community Health facilities are eligible for retirement under one of the following conditions:

- age 51 with 25 years of service, the last 5 of which were rendered in the closing facility; or
- age 56 with 10 years of service, the last 5 of which were rendered in the closing facility; or
- 25 years of service at the closing facility regardless of age.

Employees of the State Accident Fund, Michigan Biologic Products, or Liquor Control Commission who were terminated as the result of privatization may retire if the member's age and length of service was equal to or greater than 70 on the date of transfer or termination.

Conservation Officers (CO) with a hire date on or before April 1, 1991, are eligible to retire after 25 years of service, 20 of which must have been rendered as a CO. COs hired after April 1, 1991, and before March 31, 1997, must have 23 years of service as a CO to be eligible for a full retirement benefit with only 25 years of service. In either case, two years immediately preceding retirement must be as a CO.

Deferred Retirement

Any member with 10 or more years of credited service who terminates employment but has not reached the age of retirement is a deferred member and is entitled to receive a monthly pension upon reaching age 60, provided the member's accumulated contributions have not been refunded. Deferred retirement is available after five years of service for State employees occupying unclassified positions in the executive and legislative branches and certain Department of Community Health employees subject to reduction in forced layoffs by reason of deinstitutionalization.

Nonduty Disability Benefit

A member with 10 or more years of credited service who becomes totally and permanently disabled not due to performing duties as a State employee is eligible for a nonduty disability pension. The nonduty disability benefit is computed in the same manner as an age and service allowance based upon service and salary at the time of disability.

Duty Disability Benefit

A member who becomes totally and permanently disabled from performing duties as a State employee as a direct result of State employment, and who has not met the age and service requirement for a regular pension, is eligible for a duty disability pension. Public Act 109 of 2004 amended the State Employees' Retirement Act to change the calculation of the pension benefit and increase the minimum annual payment. If the member is under age 60, the duty disability allowance is now a minimum of $6,000 payable annually. At age 60 the benefit is recomputed under service retirement.

Survivor Benefit

Upon the death of a member who was vested, the surviving spouse shall receive a benefit calculated as if the member had retired the day before the date of death and selected a survivor pension. Certain designated beneficiaries can be named to receive a survivor benefit. Public Act 109 of 2004 amended the State Employees' Retirement Act to change the calculation of Duty Death benefits and redefines eligibility for deceased member's survivors. The new minimum duty-related death benefit has been increased to $6,000.

Pension Payment Options

When applying for retirement, an employee may name a person other than his or her spouse as a beneficiary if the spouse waives this right. If a beneficiary is named, the employee must choose whether the beneficiary will receive 100%, 75% or 50% of the retiree's pension benefit after the retiree's death. The decision is irrevocable. A description of the options follows.

Regular Pension – The pension benefit is computed with no beneficiary rights. If the retiree made contributions while an employee and has not received the total accumulated contributions before death, a refund of the balance of the contributions is made to the beneficiary of record. If the retiree did not make any contributions, there will not be payments to beneficiaries.

100% Survivor Pension – Under this option, after the retiree's death, the beneficiary will receive 100% of the pension for the remainder of the beneficiary's lifetime. If this option is elected, the normal retirement benefit is reduced by a factor based upon the ages of the retiree and of the beneficiary. If the beneficiary predeceases the retiree, the pension "pops up" to the regular pension amount; another beneficiary cannot be named.

75% Survivor Pension – Under this option, after the retiree's death, the beneficiary will receive 75% of the pension for the remainder of the beneficiary's lifetime. If this option is elected, the normal retirement benefit is reduced by a factor based upon the ages of the retiree and of the beneficiary. The reduction factor is lower than the factor used in the 100% option previously described. If the beneficiary predeceases the retiree, the pension "pops up" to the regular pension amount; another beneficiary cannot be named.

50% Survivor Pension – Under this option, after the retiree's death, the beneficiary will receive 50% of the pension for the remainder of the beneficiary's lifetime. If this option is elected, the normal retirement benefit is reduced by a factor based upon the ages of the retiree and of the beneficiary. The reduction factor is lower than the factor used in the 100% or 75% option previously described. If the beneficiary predeceases the retiree, the pension “pops up” to the regular pension amount; another beneficiary cannot be named.

Equated Pension – An equated pension may be chosen by any member under age 65 except a disability retiree and an early supplemental retiree. Equated pensions provide an additional amount until age 65 and may be combined with Regular, 100%, 75% or 50% option. At age 65 the monthly amount is permanently reduced. The initial and reduced amounts are based on an estimate of social security benefits at age 65, provided by the Social Security Administration Office. In order to calculate this benefit, members choosing this option must provide ORS with an estimate from the Social Security Administration Office. The actual amount received from social security may vary from the estimate.

Postretirement Adjustments

One-time upward benefit adjustments were made in 1972, 1974, 1976, 1977 and 1987. Beginning October 1, 1988, a 3% non-compounding increase, up to a maximum of $25 monthly, is paid each October to recipients who have been retired 12 full months. Beginning in 1983, eligible benefit recipients share in a distribution of investment income earned in excess of 8% annually. This distribution is known as the supplemental payment. The supplemental payment is offset by one year’s cumulative increases received after the implementation of the annual 3% increase in benefits. These adjustment payments were not issued during fiscal years 1991 through 1994. Members who retired on or after October 1, 1987, are not eligible for the supplemental payment.

Member Contributions – Under Public Act 264 of 2011, members who voluntarily elected to remain in the DB plan contribute 4% of compensation to the retirement system. In addition, members may voluntarily contribute to the System for the purchase of creditable service, such as military service or maternity leave, or a universal buy-in. If a member terminates employment before a retirement benefit is payable, the member’s contribution and interest on deposit may be refunded. If the member dies before being vested, the member’s contribution and interest are refunded to the designated beneficiaries.

Employer Contributions – The statute requires the employer to contribute to finance the benefits of plan members. These employer contributions are determined annually by the System’s actuary and are based upon level-dollar value funding principles so the contribution rates do not have to increase over time.

Banked Leave Time

Public Act 33 of 2004 amended the State Employees’ Retirement Act to include Banked Leave Time (BLT) for members. BLT is an extension of the State’s current annual leave program, which banks a predetermined number of hours per pay period. However, the BLT program will not have an effect on a member’s final average compensation calculation.

BENEFIT PROVISIONS – OTHER POSTEMPLOYMENT

Introduction

Benefit provisions of the other postemployment benefit (OPEB) plan are established by State statute, which may be amended. Public Act 240 of 1943, as amended, establishes eligibility and benefit provisions for the OPEB plan. Defined Benefit (Tier 1) members are eligible to receive health, prescription drug, dental, and vision coverage on the first day they start receiving pension benefits. Defined Contribution (Tier 2) participants who elected to retain the graded premium subsidy benefit under the reform elections of Public Act 264 of 2011 are also eligible to receive subsidized health prescription drug, dental and vision coverage after terminating employment, if they meet eligibility requirements. There is no provision for ad hoc or automatic increases. The State Employees’ Retirement Act requires joint authorization by DTMB and the Civil Service Commission to make changes to retiree medical benefit plans. Defined Contribution (Tier 2) participants who elected the Personal Healthcare Fund under Public Act 264 of 2011, and those hired on or after January 1, 2012, are not eligible for any subsidized health, prescription drug, dental or vision coverage in retirement, but may purchase it at their own expense (certain conditions apply).

Former nonvested members of the DB plan who are reemployed by the state on or after January 1, 2014 are not eligible for retiree health insurance coverage premium subsidy but will become a participant in the Personal Healthcare Fund described on page 24.

Public Act 185 of 2010 required that each actively employed member or qualified participants of the System, beginning with the first pay date after November 1, 2010, and ending September 30, 2013, contribute an amount equal to 3% of the member's or qualified participant's compensation toward retiree healthcare. Public Act 264 of 2011 rescinded that provision and refunded any collected contributions to all members.

In addition to member contributions, the employer funds OPEB benefits for both Tier 1 and Tier 2 members on a prefunded basis. Retirees with the Premium Subsidy benefit contribute 20% of the monthly premium amount for the health (including prescription coverage), dental and vision coverage. Retirees with a graded premium subsidy benefit accrue credit towards insurance premiums in retirement, earnings a 30% subsidy with ten years of service, with an additional 3% subsidy for each year of service thereafter, not to exceed the maximum allowed by statute, or 80%. Retirees are provided with life insurance coverage equal to 25% of the active life insurance coverage, $1,000 for spouse and $1,000 for each dependent under age 23. Premiums are fully paid by the State.

The number of participants and other relevant financial information are as follows:

	2016
Health, Dental and Vision Plan	
Eligible participants	58,716
Participants receiving benefits:	
Health	50,732
Dental	51,559
Vision	51,421
Defined Contribution participants receiving benefits:	
Health	959
Dental	1036
Vision	1027
Active members[1, 2]	49,020
Inactive vested members[2]	6,009
Expenses for the year (in thousands)	$ 527,962
Employer payroll contribution rates	20.63%

[1] Active member count includes Personal Healthcare Fund members eligible for the $1,000/$2,000 lump sum at termination benefit.

[2] Active and Inactive vested members are calculated based on fiscal year 2015 data.

Applications for enrollment after retirement are accepted anytime during the year, with coverage effective six months following the receipt of the application.

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting and Presentation

The System's financial statements are prepared using the accrual basis of accounting. Contributions from the employers are recognized as revenue when due and payable. Benefits and refunds are recognized when due and payable in accordance with the terms of the System. The reserves are described below and details are provided in the supporting schedules.

Governmental Accounting Standards Board (GASB) Statement No. 67, which was adopted during the year ended September 30, 2014, addresses accounting and financial reporting requirements for pension plans. The requirements for GASB Statement No. 67 require changes in presentation of the financial statements, notes to the financial statements, and required supplementary information. Significant changes include an actuarial calculation of total and net pension liability. It also includes comprehensive note disclosure regarding the pension liability, the sensitivity of the net pension liability to the discount rate, and increased investment activity disclosures. The implementation of GASB Statement No. 67 did not significantly impact the accounting for accounts receivable and investment balances. The total pension liability, determined in accordance with GASB Statement No. 67, is presented in Note 4 and in the Required Supplementary Information on page 32.

Investments are recorded at fair value in accordance with GASB Statement No. 72, *Fair Value Measurement and Application*. Accordingly, the change in fair value of investments is recognized as an increase or decrease to investment assets and investment income.

Reserves

Reserve for Employee Contributions – Beginning April 2012, members contribute 4% of their compensation to this reserve as well as purchases of eligible service credit and repay previously refunded contributions. This reserve represents active member contributions and interest less amounts transferred to the Reserve for Retired Benefit Payments for regular and disability retirement, amounts refunded to terminated members and unclaimed amounts transferred to the income account. At September 30, 2016, the balance in this reserve was $280 million.

Reserve for Employer Contributions – All employer contributions are credited to this reserve. Interest from the income account is credited annually. Amounts are transferred annually from this reserve to the Reserve for Retired Benefit Payments to fund that reserve. At September 30, 2016 the balance in this reserve was $717 million.

Reserve for Retired Benefit Payments – This represents the reserves for payment of future retirement benefits to current retirees. At retirement, a member's accumulated contributions plus interest are transferred into this reserve from the Reserve for Employee Contributions. Monthly benefits, which are paid to the retiree, reduce the reserve. At the end of each fiscal year, an amount determined by an annual actuarial valuation is transferred from the Reserve for Employer Contributions to this reserve to bring the reserve into balance with the actuarial present value of retirement allowances. At September 30, 2016, the balance in this reserve was $11.8 billion.

Reserve for Undistributed Investment Income – The net investment earnings (losses) are recorded in this reserve. Interest as authorized by the board is transferred annually to the other reserves. Administrative expenses are paid from this reserve. At September 30, 2016, the net balance of this reserve was $(1.9) billion

Reserve for Health (OPEB) Related Benefits – This reserve is credited with employee and employer contributions for retirees' health (including prescription coverage), dental, and vision benefits. Starting in fiscal year 2012, the employer contribution is based on a prefunded basis and represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and amortize any unfunded actuarial liability (or funding excess) over a period not to exceed thirty years. In addition, starting in fiscal year 2013, this reserve includes revenue from the federal government for retiree drug subsidy payment

(RDS) pursuant to the provisions of Medicare Part D and for the Employee Group Waiver Plan (EGWP). Premiums for health, dental and vision benefits are paid from this reserve. At September 30, 2016 the balance in this reserve was $1.6 billion.

Reporting Entity

The System is a pension and other employee benefit trust fund of the State. As such, the System is considered part of the State and is included in the State's Comprehensive Annual Financial Report as a pension and other employee benefit trust fund. The System and its Board are not financially accountable for any other entities or other organizations. Accordingly, the System is the only entity included in this financial report.

Benefit Protection

Public Act 100 of 2002 was passed by the Michigan Legislature to protect pension benefits of public employees from alienation (being transferred). Alienation is attachment, garnishment, levy, execution, bankruptcy or other legal process except for divorce orders or eligible domestic relation orders. The statutes governing the System contained an "anti- alienation" clause to provide for this protection; however, many smaller public pension systems did not have the benefit of this protection. Therefore, Public Act 100 of 2002 was passed to establish legal protection of pension assets that encompasses all public employees.

Investments

Generally, investments are reported at fair value, consistent with the provisions of GASB Statement No. 72, *Fair Value Measurement and Application.* Short-term, highly liquid debt instruments including commercial paper are reported at amortized cost. Additional disclosures describing investments are provided in Note 5.

Investment Income

Dividend and interest income is recognized on the accrual basis. Fair value changes are recorded as investment income or loss. Purchases and sales of investments are recorded as of the trade date (the date upon which the transaction is initiated), except for purchase and sale of mortgages, real estate, and private equity investments which are recorded as of the settlement date (the date upon which the transaction is ultimately completed). The effect of recording such transactions as of the settlement date does not materially affect the financial statements.

Costs of Administering the System

Each year a restricted general fund appropriation is requested to fund the ongoing business operations of the System. These administrative costs are ultimately funded by the System through the regular transfer of funds from the System to the State's general fund based on either a direct cost or allocation basis depending on the nature of the expense. Costs of administering the System are financed by undistributed investment income of the System.

Property and Equipment

Office space is leased from the State on a year-to-year basis. Office equipment is capitalized if the value exceeds $5,000. These assets are recorded at cost and are reported net of depreciation in the *Statement of Pension Plan and Other Post-employment Benefit Plan Fiduciary Net Position*. Such assets are depreciated on a straight-line basis over 10 years. As of September 30, 1998, all capitalized equipment was fully depreciated. No additional equipment has been capitalized for the System since that date.

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

Related Party Transactions

Leases and Services – The System leases operating space and purchases certain administrative, data processing, legal and investment services from the State. The space and services are not otherwise available by competitive bid. The schedule below summarizes costs incurred by the System for such services.

	2016 (in thousands)
Building Rentals	$ 160
Technological Support	1,952
Attorney General	306
Investment Services	3,442

Cash – At September 30, 2016, the System had $73.8 million in a common cash investment pool maintained for various State operating funds. The participating funds in the common cash pool earn interest at various rates depending upon prevailing short-term interest rates. Earnings (Losses) from these activities amounted to ($35) for the year ended September 30, 2016.

NOTE 3 – CONTRIBUTIONS AND FUNDED STATUS

Contributions

The State is required by Public Act 240 of 1943, as amended, to contribute amounts necessary to finance the coverage of members and retiree OPEB. Members currently participate in the System on a contributory basis of 4% of the annual compensation. Under certain circumstances, members may contribute to the System for the purchase of creditable service, such as military service or maternity leave. Effective August 1, 1998, the retirement act was amended to permit a universal buy-in. With a universal buy-in, a member may elect to purchase no more than 5 years of service credit (less other service credit purchased). Contribution provisions are specified by State statute and may be amended only by action of the State Legislature.

Employer contributions to the System are determined on an actuarial basis using the entry age normal actuarial cost method. Under this method, the actuarial present value of the projected benefits of each individual included in the actuarial valuation is allocated on a level basis over the service of the individual between entry age and assumed exit age. The portion of this cost allocated to the current valuation year is called the normal cost. The remainder is called the actuarial accrued liability. Normal cost is funded on a current basis. For retirement and OPEB, the unfunded (overfunded) actuarial accrued liability as of the September 30, 2015 valuation will be amortized over a 21 year period. The schedule below summarizes pension contribution rates in effect for fiscal year 2016.

Pension Contribution Rates

Benefit Structure	Member	Employer
Defined Benefit*	0.0 - 4.0 %	26.05 - 29.90 %
Defined Contribution	0.0	22.84

* Employee Contributions are not mandatory if the member's pension is frozen.

Actual employer contributions for other postemployment benefits (OPEB) were $617.7 million for fiscal year 2016. The fiscal year 2016 annual covered payroll is not yet available. Required employer contributions based on previous year actuarial valuations for OPEB included:

- $95.6 million for fiscal year 2016 for the normal cost of OPEB representing 3.2% of annual covered payroll for fiscal year 2015.
- $563.9 million for fiscal year 2016 for amortization of unfunded actuarial accrued liability representing 18.6% (before reconciliation, if any) of annual covered payroll for fiscal year 2015.

The System is required to reconcile with actuarial requirements annually. Any funding excess or funding deficiency for pension benefits is smoothed over five years. One fifth (20%) of the funding excess or deficiency is included in each of the subsequent years' contribution, and is not recognized as a payable or receivable in the accounting records..

In March 2001, the Internal Revenue Service issued a private letter ruling allowing the System's members to purchase service credit and repay refunds using tax-deferred (pre-tax) dollars. The program was implemented and payments began in fiscal year 2002.

The program allows members to purchase service credit and repay refunds on a tax-deferred basis. Members sign an irrevocable agreement that identifies the contract duration, monthly payment, total contract amount and years of service credit being purchased. The duration of the contract can range from 1 to 20 years. The amounts are withheld from the members' paycheck and are treated as employer pick-up contributions pursuant to Internal Revenue Code Section 414(h). At September 30, 2016, there were 1728 agreements. Agreement amounts that will not be collected within 12 months are discounted using the assumed actuarial rate of return of 8%. The average length remaining of a contract was approximately 8.1 years for 2016. The short-term receivable was $2.8 million and the discounted long-term receivable was $10.2 million at September 30, 2016.

Funded Status – Other Postemployment Benefits

Participating employers are required to contribute at an actuarially determined rate for OPEB. For fiscal year 2015 the actuarial accrued liability (AAL) for OPEB was $9.0 billion, and the actuarial value of assets was $1.3 billion, resulting in an unfunded actuarial accrued liability (UAAL) of $7.7 billion and a funded ratio of 14.5%. The covered payroll (annual payroll of active employees covered by the plan) was $3.0 billion, and the ratio of the UAAL to the covered payroll was 254.1%.

NOTE 4 – NET PENSION LIABILITY

Measurement of the Net Pension Liability

The net pension liability is to be measured as the total pension liability, less the amount of the pension plan's fiduciary net position. In actuarial terms, this will be the accrued liability less the fair value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Net Pension Liability (in thousands)

Total Pension Liability	$	16,272,175
Plan Fiduciary Net Position		10,980,343
Net Pension Liability	$	5,291,832
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		67.48%
Net Pension Liability as a percentage of Covered Payroll		606.61%
Total Covered Payroll	$	872,358

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

Long-Term Expected Return on Plan Assets

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 (expected returns, net of pension plan investment expense and inflation) 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 target asset allocation percentage and by adding expected inflation.

Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of September 30, 2016, are summarized in the following table:

Asset Allocation

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return*
Domestic Equity Pools	28.0 %	5.9 %
Private Equity Pools	18.0	9.2
International Equity Pools	16.0	7.2
Fixed Income Pools	10.5	0.9
Real Estate and Infrastructure Pools	10.0	4.3
Absolute Return Pools	15.5	6.0
Short-Term Investment Pools	2.0	0.0
TOTAL	**100.0 %**	

* Long-term rates of return are net of administrative expenses and 2.1% inflation.

Rate of Return

For the fiscal year ended September 30, 2016, the annual money-weighted rate of return on pension plan investment, net of pension plan investment expense, was 5.9%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Discount Rate

A discount rate of 8.0% was used to measure the total pension liability. This discount rate was based on the long-term expected rate of return on pension plan investments of 8.0%. The projection of cash flows used to determine this 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 to Changes in the Discount Rate

As required by GASB Statement No. 67, the following presents the plan's net pension liability, in thousands, calculated using a discount rate of 8.0% as well as what the plan's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher:

1% Decrease	Current Discount Rate Assumption	1% Increase
7.0%	8.0%	9.0%
$6,794,596	$5,291,832	$3,944,913

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. If the actuarial valuation is not calculated as of the plan's fiscal year end, the total pension liability is required to be rolled forward from the actuarial valuation date to the pension plan's fiscal year end.

The total pension liability as of September 30, 2016, is based on the results of an actuarial valuation date of September 30, 2015, and rolled-forward using generally accepted actuarial procedures.

Actuarial Valuations and Assumptions

Actuarial valuations for both the pension and OPEB plans involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the annual required contributions (ARC) are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future.

The Schedule of Funding Progress, presented as required supplementary information following the notes to the financial statements, presents multi-year trend information about whether the actuarial value of plan assets for the OPEB plan is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

The Schedules of Contributions in Required Supplementary Information present trend information about the amounts contributed to the plan by employers in comparison to the ARC, an amount that is actuarially determined in accordance with the parameters of GASB Statement No. 67 for pension contributions and GASB Statement No. 43 for OPEB contributions.

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

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 actuarial valuation follows:

Summary of Actuarial Assumptions

Valuation Date	September 30, 2015
Actuarial Cost Method	Entry Age, Normal
Amortization Method - OPEB	Level Percent of Payroll, Closed
Remaining Amortization Period - OPEB[1]	21 years
Asset Valuation Method - OPEB	Fair Value
Actuarial Assumptions:	
Wage Inflation Rate	3.5%
Investment Rate of Return - Pension	8%
Investment Rate of Return - OPEB	8.0%
Projected Salary Increases	3.5 - 12.5%
Cost-of-Living Pension Adjustments	3% Annual Non-Compounded with Maximum Annual Increase of $300 for those eligible
Healthcare Cost Trend Rate	9.0% Year 1 graded to 3.5% Year 10
Mortality - Pension and OPEB	RP-2000 Male and Female Combined Healthly Life Mortality Tables, adjusted for mortality improvements to 2015 projections scale BB. For retirees, 100% of the table rates were used. For active members, 50% of the table rates were used for males and females.
Other Assumptions OPEB only: [2]	
Opt Out Assumption	10% of eligible participants are assumed to opt out of the retiree health plan
Survivor Coverage	80% of male retirees and 67% of female retirees electing dependent coverage are assumed to have coverage continuing after the retiree's death
Coverage Election at Retirement	75% of male and 60% of female future retirees are assumed to elect coverage for 1 or more dependents
Notes:	Assumption changes as a result of an experience study for the periods 2007 through 2012 have been adopted by the System for use in the annual pension valuations beginning with the September 30, 2014 valuation.

[1] Based on the provisions of GASB Statement Nos. 43 and 45 when the actuarial accrued liability for a OPEB plan is underfunded or overfunded, the difference should be amortized over a period not to exceed thirty years for the fiscal periods beginning on or after June 15, 2006.

[2] Applies to individuals hired before January 1, 2012.

NOTE 5 – INVESTMENTS

Investment Authority

Under Public Act 380 of 1965, as amended, the authority for the purchase and the sale of investments resides with the State Treasurer. Investments are made subject to the Public Employee Retirement System Investment Act, Public Act 314 of 1965, as amended. The Public Employee Retirement System Investment Act authorizes, with certain restrictions, the investment of pension fund assets in stocks, corporate and government bonds and notes, mortgages, real estate, and certain short-term and private equity investments. Investments must be made for the exclusive purposes of providing benefits to active members, retired members and beneficiaries, and for defraying the expenses of investing the assets.

Derivatives

The State Treasurer employs the use of derivatives in the investment of the pension and other employee benefit trust funds (the trust funds).

Derivatives are used in managing the trust fund portfolios, but uses do not include speculation or leverage of investments. Less than 12% of the total trust funds' portfolio has been invested from time to time in future contracts, swap agreements, structured notes, option and forward contracts. State investment statutes limit total derivative exposure to 15% of a fund's total asset value, and restrict uses to replication of returns and hedging of assets. Swap agreements represent the largest category of derivative investments subject to this limitation. Option and Future contracts traded daily on an exchange and settling in cash daily or having a limited and fully defined risk profile at an identified, fixed cost are not subject to the derivative exposure limitation.

The derivative fair values are reported on the Statement of Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position as of September 30, 2016, in their respective investment pool's fair value. Derivative net increase and decrease are reported on the Statement of Changes in Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position for fiscal years ended September 30, 2016, under "Investment income gain / (loss)", in "Net increase (decrease) in fair value of investments". Bond interest, swap payments, and dividends are reported under "Investment Income", in "Interest, dividends, and other".

Derivative Investment Table as of September 30, 2016 (In Millions):

Investment and Investment Type	Percentage of Fair Value	Notional Value	Investments At Fair Value	Net Increase (Decrease) in Fair Value	Investment Income	Fair Value Subject to Credit Risk
U.S. Treasury Bond Future Contracts						
Fixed Income Investments	0.0%	$ 1.5		$ (0.1)		
Option Contracts						
Equity Investments	0.0	(24.2)		2.3		
Swap Agreements						
International Equity Investments	1.8	299.6	$ 226.3	25.7	$ (0.1)	$ 18.9
Swap Agreements						
Equity Investments	0.0	276.1	0.9	(0.1)	4.4	8.9

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

To diversify the trust funds' portfolio, the State Treasurer has entered into international swap agreements with investment grade counterparties, which are tied to foreign stock market indices in approximately forty-two foreign countries. Generally, one quarter or less of the notional amount tied to foreign stock market indices is usually hedged against foreign currency fluctuations. The swap agreements provide that the System will pay quarterly over the term of the swap agreements, interest indexed to the three month London Inter-Bank Offer Rate (LIBOR), adjusted for an interest rate spread, on the notional amount stated in the agreements. International equity swap agreement maturity dates range from October 2016 to September 2017. The U.S. Domestic LIBOR based floating rate notes and other investments are held to correspond with the notional amount of the international swap agreements. The value of the international synthetic equity structures is a combination of the value of the swap agreements and the value of the notes and other investments. The book value represents the cost of the notes and other investments. The current value represents the current value of the notes and other investments and the change in the value of the underlying indices from the inception of the swap agreements. The current value is used as a representation of the fair value based on the intention to hold all swap agreements until maturity. At the maturity of the swap agreements, the trust funds will either receive the increase in the value of the equity indices from the level at the inception of the agreements, or pay the decrease in the value of the indices. The combined swap structure generally realizes gains and losses on a rolling basis.

Domestic equity swap agreements provide that the System will pay interest monthly, quarterly, or annually over the term of the swap agreements, interest indexed to the LIBOR, adjusted for an interest rate spread, on the notional amount stated in the agreements. Domestic equity swap agreement maturity dates range from October 2016 to May 2018. Domestic equity swaps value is a combination of the value of the swap agreements and the value of short-term investments. Book value represents the cost of short-term and equity investments. Current value represents the fair value of the short-term investments and the change in the value of the underlying indices from the inception of the swap agreements. Domestic equity swaps' increase (decrease) primarily reflects the net changes in the domestic indices and short-term investments.

Counterparty credit risk is the maximum loss amount that would be incurred if the counterparties to the derivative instrument failed to perform according to the terms of the contract, without respect to any collateral or other security, or netting arrangement.

The State Treasurer traded U. S. Treasury bond future contracts to manage duration and yield curve exposure.

To provide downside protection and enhance current income, the State Treasurer traded covered equity options on single securities for the Real Return Opportunistic Investment and Equity Investment pools. Put options are used to protect against large negative moves in single stocks, as well as, to express interest in a security that is trading well below its intrinsic value. Call options have been used to achieve current income on single equity securities that are trading near their intrinsic value.

Securities Lending

The System, pursuant to a Securities Lending Authorization Agreement, has authorized State Street Bank and Trust Company ("State Street") to act as the System's agent in lending System's securities to approved borrowers. State Street, as agent, enters into Securities Loan Agreements with borrowers.

During the fiscal year, State Street lent, on behalf of the State Treasurer, certain securities of the System held by State Street as custodian and received cash or other collateral including securities issued or guaranteed by the United States government. The types of securities lent were equity, and fixed income, which includes government and corporate bonds and notes. State Street does not have the ability to pledge or sell collateral securities delivered absent a borrower default. Borrowers were required to deliver collateral for each loan equal to at least 100% of the fair value of the loaned securities.

Pursuant to the Securities Lending Authorization Agreement, State Street had an obligation to indemnify the System in the event of default by a borrower. There were no failures by any borrowers to return loaned securities or pay distributions thereon during the fiscal year that resulted in a declaration or notice of default of the Borrower.

During the fiscal year, the System and the borrowers maintained the right to terminate securities lending transactions upon notice. The cash collateral received on each loan was invested, together with the cash collateral of other qualified tax-exempt plan lenders, in a collective investment pool. As of September 30, 2016, such investment pool had an average duration of 1.6 years and an average weighted final maturity of 1.6 years for USD. Because the loans were terminable at will their duration did not generally match the duration of the investments made with cash collateral. On September 30, 2016, the System had no credit risk exposure to borrowers. The fair value of collateral held and the fair value (USD) of securities on loan for the client as of September 30, 2016, was $837,387,620 and $857,919,144, respectively.

Risk

In accordance with GASB Statement No. 40, investments require certain disclosures regarding policies and practices and the risks associated with them. The credit risk, (including custodial credit risk and concentration of credit risk), the interest rate risk, and the foreign currency risk are discussed in the following paragraphs. Amounts represent the pro rata share of the underlying investments as required by GASB Statement No. 40. These investments are held in internal investment pools and reported as such in the financial statements.

Credit Risk – Credit risk is the risk that an issuer will not fulfill its obligations.

- Short-Term Fixed Income Investments – Prime commercial paper investments must be rated A-1 or P-1 at the time of purchase as rated by two national rating services as specified in Public Act 314. Borrowers must have at least $400.0 million in commercial paper outstanding, and the State Treasurer may not invest in more than 10% of the borrower's outstanding debt. The investments are further limited to $200.0 million in any borrower, unless the borrower has an A-1+ rating in which case the investment is not to exceed $300.0 million.

- Long-Term Fixed Income Investments – Investment grade and noninvestment grade securities may be acquired in compliance with the parameters set forth in Public Act 314 of 1965, as amended, and the State Treasurer’s Investment Policy Statement for the System. Public Act 314 defines investment grade as investments in the top four major grades, rated by two national rating services. At September 30, 2016, the System was in compliance with Public Act 314 and the Investment Policy Statement in all material aspects.

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

Rated Debt Investments
(in thousands)
As of September 30, 2016

Investment Type	Fair Value	S&P	Fair Value	Moody's
Short Term	$ 444,355	A-1	$ 444,355	P-1
Government Securities				
U.S. Agencies- Sponsored	13	AAA	48,447	Aaa
	48,434	AA		Aa
Corporate Bonds & Notes				
	47,542	AAA	64,789	Aaa
	89,731	AA	63,838	Aa
	181,055	A	230,182	A
	418,409	BBB	394,122	Baa
	103,218	BB	114,582	Ba
	91,581	B	111,172	B
	29,353	CCC	33,679	CAA
	869	CC	10,036	Ca
		C	664	C
	8,797	D		D
	155,865	NR	103,357	NR
International *				
	51,728	AA	51,728	Aa
	21,139	A	51,642	A
	114,065	BBB	88,592	Baa
	5,030	NR		NR
Securities Lending Collateral				
Short Term	80,889	A-1	80,889	P-1
	177,384	NR	177,384	NR
Corporate		BB	611,405	Ba
	611,405	NR		NR
Mutual Funds**	6,620	AAA	6,620	Aaa
	1,693	BBB	1,693	BBB
	18,884	B	18,884	B
Total	$ 2,708,059		$ 2,708,059	

NR - not rated

* International Investment types consist of domestic floating rate note used as part of a Swap strategy.
** Average Rating

Custodial Credit Risk – Custodial credit risk for investments is the risk that, in the event of a failure of the counterparty, the State will not be able to recover the value of the investment or collateral securities that are in the possession of an outside party.

Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the government and are held by either the counterparty or the counterparty's trust department or agent, but not in the government name.

The State Treasurer does not have a policy for custodial credit risk. However, the State's custodial bank had a credit rating of A at September 30, 2016. As of September 30, 2016, no securities were exposed to custodial credit risk.

Concentration of Credit Risk – Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investment in a single issuer.

Other than obligations issued, assumed or guaranteed by the United States, its agencies or United States government sponsored enterprises, the System is prohibited by Public Act 314 of 1965, as amended, from investing more than 5% of the outstanding obligations of any one issuer or investing more than 5% of a System's assets in the obligations of any one issuer. When calculating the amount of outstanding obligations, the System includes publicly issued and privately held debt.

At September 30, 2016, there were no investments in any single issuer that accounted for more than 5% of the System's assets.

Interest Rate Risk – Fixed Income Investments – Interest rate risk is the risk that changes in interest rates of debt investments will adversely affect the fair value of an investment.

The State Treasurer's policy states that cash equivalents are invested in short-term fixed income securities with an average weighted maturity of less than one year to provide liquidity and safety of principal from capital market and default risk. At September 30, 2016, the fair value of the System's prime commercial paper was $444.4 million with the weighted average maturity of 21 days.

The State Treasurer does not have a policy regarding interest rate risk for long-term debt investments. However, the trust funds are invested with a long-term strategy. The goal is to balance higher returns while accepting minimum risk for the return. Analyzing the yield curve on individual securities as compared to U.S. Treasuries determines, in part, what is an acceptable risk for the return. Therefore, market conditions such as lower interest rates result in shorter duration and higher interest rates result in longer duration.

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

Debt Securities
(in thousands)
As of September 30, 2016

	Fair Value	Effective Duration in Years
Government		
U. S. Treasury	$ 294,781	5.3
U. S. Agencies - Backed	110,969	4.0
U. S. Agencies - Sponsored	48,447	3.2
Corporate	1,153,616	4.3
International*		
Corporate	191,963	0.1
Total	$ 1,799,776	

Debt securities are exclusive of securities lending collateral.

*International contains Domestic Government and Corporate Debt Securities as a part of their derivative strategies. The interest rates reset on a quarterly basis for these securities.

Foreign Currency Risk – Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or deposit.

The System invests in various securities denominated in foreign currencies. Authorized global securities include equities, fixed income, mutual funds, real estate, and limited partnerships. These investments are limited to 30% of the total assets of the System with additional limits of not more than 5% of the outstanding global securities of any one issuer and no more than 5% of the System's assets in the global securities of any one issuer. In addition to these limits, the State Treasurer cannot acquire securities with companies that have active business operations in the state sponsors of terror as identified by the United States Secretary of State. At September 30, 2016, the total amount of foreign investment subject to foreign currency risk was $2,331.8 million, which amounted to 18.7% of total investments (exclusive of securities lending collateral) of the System.

Foreign Currency Risk
(in thousands)
As of September 30, 2016

Region	Country	Currency	Private Equity, Real Estate, & Infrastructure Fair Value in U.S. $	International & Absolute Return Fair Value in U.S. $	Fixed Income Fair Value in U.S. $	Equity Fair Value in U.S. $ *
AMERICA						
	Brazil	Real			$ 2,186	
	Canada	Dollar		$ 21,269	1,510	$ 274
	Mexico	Peso		1,315	2,874	
	Peru	Sol			274	
EUROPE						
	Denmark	Krone		5,531	447	
	European Union	Euro		33,784	9,410	29,527
	Hungary	Forint			1,713	
	Norway	Krone		4,979		
	Poland	Zloty			310	
	Romania	Leu			267	
	Switzerland	Franc		19,484		3,235
	Sweden	Krona		7,409	668	129
	U.K.	Sterling		29,546	2,789	11,968
PACIFIC						
	Australia	Dollar		8,608		163
	China	Renminbi	6,990			2,997
	Hong Kong	Dollar		9,234		
	India	Rupee			123	
	Indonesia	Rupiah			583	
	Japan	Yen		78,505	2,797	918
	Malaysia	Ringgit			1,175	
	New Zealand	Dollar		1,219		
	Philippines	Peso			246	
	Singapore	Dollar		4,904		
	South Korea	Won		1,750		
AFRICA						
	South Africa	Rand			1,132	91
MIDDLE EAST						
	Israel	Shekel		4,036		581
OTHER	Various		580,462	1,432,128		2,216
	Total		$ 587,452	$ 1,663,701	$ 28,504	$ 52,099

* International includes derivatives whose fair value exposure to foreign currency risk is the net amount of unrealized gains and unrealized losses. Maturity dates on these investments range from October 2016 through September 2017 with an average maturity of 0.4 years.

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

Fair Value Measurements

The Retirement System categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Not all investments held by the Retirement System are recorded at fair value. GASB 72 allows for certain investments to be recorded at cost (or amortized cost or any other valuation method), and therefore, they are not presented in the fair value hierarchy table. Equity and fixed income securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities. Equity Swaps and Fixed Income securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing technique and other significant observable inputs. Equity and fixed income securities classified as Level 3 of the fair value hierarchy are valued using a third party data and reports that are unobservable. Securities reported at Net Asset Value (NAV) are valued using the most recent third party statement adjusted for cash flows as of September 30, 2016. 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 on the following page.

In instances where inputs used to measure fair value fall into different levels in the above fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. The Retirement System's assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each asset or liability.

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

		Fair Value Measurement Using		
Investments by fair value level:	Balance at September 30, 2016	Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Total cash and cash Equivalents	$ 11,419,735	$ 11,419,735		
Equity				
Depository Receipts	26,023,350	26,023,350		
Warrants	652,424	635,872		$ 16,552
Publicly Traded Partnerships	13,566,601	13,566,601		
Common Stocks	3,174,087,200	3,173,706,831		380,369
Preferred Stocks	257,771	257,771		
Equity Swaps	16,079,824		$ 13,952,149	2,127,674
Commingled Funds and ETF's	1,510,727,743	1,510,727,743		
Real Estate Investment Trusts	129,595,045	129,595,045		
Total Equity	4,870,989,958	4,854,513,213	13,952,149	2,524,595
Fixed Income				
Asset Backed	87,675,127		87,593,193	81,934
Corporate Bonds	1,065,146,370		1,058,792,945	6,353,426
Commercial mortgage-backed	205,850,290		205,850,290	
Government Issues	327,681,680	294,781,573	30,903,825	1,996,282
US Agency Issues	80,351,733		80,351,733	
Convertible Bonds	113,763		113,763	
Futures on Fixed Income	1,506,204	1,506,204		
Total Fixed Income	1,768,325,167	296,287,777	1,463,605,749	8,431,642
Total investments by fair value level	**$ 6,650,734,860**	**$ 5,162,220,725**	**$ 1,477,557,898**	**$ 10,956,237**
Investments measured at the net asset value (NAV)				
Private Equity	1,876,770,696			
Real Estate & Infrastructure	1,317,997,878			
Absolute Return	800,565,269			
Real Return & Opportunistic	1,047,634,232			
Other Limited Partnerships	145,179,721			
Total investments measured at the NAV	**5,188,147,796**			
Total investments measured at fair value	**$ 11,838,882,656**			

Additional disclosures for fair value measurements of investments in certain entities that calculate the Net Asset Value per Share (or its equivalent)

Private Equity funds

Total investments measured at the NAV	$ 1,876,770,696
Unfunded commitments	1,267,042,250

Private Equity funds includes investments in approximately *216* partnerships that invest in leveraged buyouts, venture capital, mezzanine debt, distressed debt, secondary funds and other investments. These types of investments can never be redeemed with the funds, but distributions are received through the liquidation of the underlying assets of the fund. It's expected that the underlying assets of the fund are liquidated over a period of five to eight years. However, as of September 30, 2016, it is probable that all of the investments in this group will be sold at an amount different from the NAV per share (or its equivalent).

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

Therefore, the fair values of the investments in this type have been determined using recent observable transaction information for similar investments and nonbinding bids received from potential buyers of the investments. As of September 30, 2016, a buyer for these investments has not been identified.

Real Estate and Infrastructure

Total investments measured at the NAV	$	1,317,997,878
Unfunded commitments		316,200,393

Real Estate and Infrastructure funds include approximately 96 accounts (limited partnerships, limited liability companies, etc.) that invest in real estate or infrastructure related assets. The fair value of the Real Estate and Infrastructure funds have been determined in accordance with generally accepted accounting principles using the NAV per share (or its equivalent) of the Plan's ownership interest in partners' capital. These types of investments cannot be redeemed with the funds. Distributions from these funds will be received as the underlying investments are sold and liquidated over time. It is expected that the underlying assets will be sold over the next 5 – 15 years. However, buyers have not been determined so the fair value has been determined using the NAV per share (or its equivalent) of the Plan's ownership interest in partners' capital.

Absolute Return Portfolio

Total investments measured at the NAV	$	800,565,269
Unfunded commitments		7,433,779

This type invests in hedge funds and hedge fund of funds that pursue multiple strategies to diversify risks and reduce volatility. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the investments. For 97.9% of the investments, Investors may redeem at various dates between January 1, 2017 and April 1, 2019. The remaining 2.10% is not redeemable on demand.

Real Return & Opportunistic Portfolio

Total investments measured at the NAV	$	1,047,634,232
Unfunded commitments		502,037,069

This type includes 62 funds that invest in private credit, tangible and intangible real assets, or other real return and opportunistic strategies. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the Plan's ownership interest in partners' capital. These investments can never be redeemed with the funds. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the underlying assets of the funds will be liquidated over the next 5 to 10 years. This type also includes one fund that offers quarterly redemptions with 65 day notice.

All Other Investments

Total investments measured at the NAV	$	145,179,721
Unfunded commitments		27,027,241

The balance of plan assets reported at fair value includes:

- one limited partnership (lp) that invests in the equity of Japanese companies. This lp permits partners to withdraw funds quarterly with 180 days of advanced notice.
- two limited partnerships that invest in senior secured debt financing of a 3rd party investment fund. This investment cannot be redeemed by limited partners. The debt has a 10 year maturity, with partnership distributions to include principal as the loan collateral matures four years after the initial investment.
- one limited partnership permitting partners to redeem its debt securities quarterly with 60 days of advanced notice.

NOTE 6 – ACCOUNTING CHANGES

GASB Statement No. 72, *Fair Value Measurement and Application*, was established to provide guidance for determining a fair value measurement for financial reporting purposes. This statement also provides guidance for applying fair value to certain investments and disclosures related to all fair value measurements. This statement was implemented in fiscal year 2016.

NOTE 7 – NEW ACCOUNTING PRONOUNCEMENTS

Governmental Accounting Standards Board (GASB) issued Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*. The objective of this Statement is to improve the usefulness of information about postemployment benefits other than pensions (other postemployment benefits or OPEB) included in the general purpose external financial reports of state and local governmental OPEB plans for making decisions and assessing accountability. This Statement replaces Statements No. 43, *Financial Reporting for Postemployment Benefit Plans other than Pension Plans*, as amended, and No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*. It also includes requirements for defined contribution OPEB plans that replace the requirements for those OPEB plans in Statement No. 25, *Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans*, as amended, Statement 43, and Statement No. 50, *Pension Disclosures*. This Statement is effective for financial statements for fiscal years beginning after June 15, 2016.

GASB issued Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*. The objective of this Statement is to address accounting and financial reporting for OPEB that is provided to the employees of state and local governmental employers. This Statement establishes standards for recognizing and measuring liabilities, deferred outflows of resources, deferred inflows of resources, and expense/expenditures. For defined benefit OPEB, this Statement identifies the methods and assumptions that are required to be used to project benefit payments, discount projected benefit payments to their actuarial present value, and attribute that present value to periods of employee service. Note disclosure and required supplementary information requirements about defined benefit OPEB also are addressed. This Statement is effective for participating employers for the fiscal years beginning after June 15, 2017.

GASB issued Statement No. 82, *Pension Issues—an amendment of GASB Statements No. 67, No. 68 and No. 73*. This statement addresses issues regarding: 1) the presentation of payroll-related measures in required supplementary information; 2) the selection of assumptions and the treatment of deviations from the guidance in an actuarial standard of practice for financial reporting purposes; and 3) the classification of payments made by employers to satisfy employee (member) contribution requirements. This Statement is effective for financial statements for fiscal years beginning after June 15, 2016.

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

NOTE 8 – COMMITMENTS AND CONTINGENCIES

Under the Administrative Procedures Act, members may appeal a decision made by the Board. Once the administrative procedure has been exhausted, the decision may be appealed in Michigan's court system. Various cases that have exhausted the administrative procedures have been appealed in the court system. These cases are in the normal course of business and the System does not anticipate any material loss as a result of the contingent liabilities.

Required Supplementary Information

Schedule of Funding Progress – Other Postemployment Benefit Plan

Expressing the actuarial value of assets as a percentage of the actuarial accrued liability provides one indication of the OPEB Plan's funding status. Analysis of this percentage over time indicates whether the Plan is becoming financially stronger or weaker. Generally, the greater this percentage, the stronger the Plan. Trends in unfunded actuarial accrued liability and annual covered payroll are both affected by inflation. Expressing the unfunded or overfunded actuarial accrued liability as a percentage of annual covered payroll approximately adjusts for the effects of inflation and aids analysis of progress made in accumulating sufficient assets to pay benefits when due. Generally, the smaller this percentage, the stronger the Plan.

Other Postemployment Benefits ($ in millions)

Valuation Date Sept 30	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded (Overfunded) Accrued Liability (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
2006		$ 13,499	$ 13,499	0.0 %	$ 2,848	474.0 %
2007		12,966	12,966	0.0	2,949	439.6
2008		13,542	13,542	0.0	2,822	479.9
2009		12,618	12,618	0.0	2,972	424.6
2010		14,666	14,666	0.0	2,938	499.2
2011		14,251	14,251	0.0	3,040	468.8
2012 [1]	$ 344	8,757	8,413	3.9	2,895	290.6
2013	663	8,199	7,536	8.1	2,881	261.6
2014 [1]	1,058	8,749	7,691	12.1	2,857	269.2
2015	1,302	8,999	7,697	14.5	3,029	254.1

[1] Revised acturial assumptions

Required Supplementary Information (Continued)

Schedule of Changes in Net Pension Liability (in thousands)

	Fiscal Year 2016	Fiscal Year 2015	Fiscal Year 2014
Total Pension Liability			
Service Cost	$ 74,042	$ 80,413	$ 84,040
Interest	1,250,117	1,242,353	1,206,258
Changes of benefit terms			
Differences between expected and actual experience	3,441	55,072	
Changes of assumptions			406,962
Benefit payments, including refunds of member contributions	(1,289,728)	(1,265,480)	(1,223,033)
Net Change in Total Pension Liability	37,872	112,358	474,227
Total Pension Liability - Beginning	16,234,303	16,121,945	15,947,718
Total Pension Liability - Ending (a)	$ 16,272,175	$ 16,234,303	$ 16,121,945
Plan Fiduciary Net Position			
Contributions - Employer	$ 716,465	$ 749,332	$ 705,100
Contributions - Member	46,666	46,688	47,527
Net Investment Income	781,528	232,588	1,529,626
Benefit payments, including refunds of member contributions	(1,289,728)	(1,265,479)	(1,223,033)
Administrative and Other Expenses	(6,629)	(6,228)	(6,931)
Other	278	55	
Net Change in Plan Fiduciary Net Position	248,580	(243,044)	1,052,290
Plan Fiduciary Net Position - Beginning	10,731,762	10,974,806	9,922,516
Plan Fiduciary Net Position - Ending (b)	$ 10,980,343	$ 10,731,762	$ 10,974,806
Net Pension Liability - Ending (a) - (b)	$ 5,291,832	$ 5,502,541	$ 5,147,139
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	67.48%	66.11%	68.07%
Covered Employee Payroll	$ 872,358	$ 946,977	$ 1,006,633
Net Pension Liability as a Percentage of Covered Employee Payroll	606.61%	581.06%	511.32%

Required Supplementary Information (continued)

Schedule of Net Pension Liability
(in thousands)

Fiscal Year Ended Sept. 30	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as % of Total Pension Liability	Covered Payroll	Net Pension Liability as % of Covered Payroll
2014	$ 16,121,945	$ 10,974,806	$ 5,147,139	68.07 %	$ 1,006,633	511.32 %
2015	16,234,303	10,731,762	5,502,541	66.11	946,977	581.06
2016	16,272,175	10,980,343	5,291,832	67.48	872,358	606.61

Schedules of Contributions

Pension Benefits
(in thousands)

Fiscal Year Ended Sept. 30	Annual Required Contribution (ARC)	Actual Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2007	$ 316,138 [2]	$ 150,859 [1]	$ 165,280	$ 1,825,889	8.1 %
2008	308,020	355,732	(47,712)	1,763,672	20.2
2009	351,647	343,787	7,859	1,734,325	19.8
2010	418,428	369,953	48,475	1,621,709	22.8
2011	447,924	424,547	23,377	1,276,058	33.3
2012 [3]	512,616	419,927	92,689	1,155,591	36.3
2013	611,132	604,845	6,287	1,081,729	55.9
2014	624,467	705,100	(80,633)	1,006,633	70.0
2015 [3]	654,515	749,332	(94,817)	946,977	79.1
2016	752,161	716,465	35,697	872,358	82.1

[1] In fiscal year 2007, $41.3 million was transferred from the Health Advance Funding SubAccount to the Reserve for Employer Contributions in accordance with the provisions set forth in the State Employees' Retirement Act to comply with Executive Order 2007-3 and the subaccount was brought to $0.

[2] Pursuant to Public Act 22 of 2007, the System's assets were revalued to their actual fair value as of September 30, 2006. The five-year smoothing began again in fiscal year 2008.

[3] Revised actuarial assumptions.

Required Supplementary Information (Continued)

Schedules of Contributions (continued)

Other Postemployment Benefits
(in thousands)

Fiscal Year Ended Sept. 30	Annual Required Contribution (ARC)	Actual Employer Contributions	Other Governmental Contributions	Percentage Contributed
2007	$ 898,717	$ 359,375 [1]		40.0 %
2008	879,246	342,187	$ 23,004	41.5
2009	922,791	362,419	21,987	41.7
2010	870,012	360,126	27,058	44.5
2011	1,020,144	388,196	64,773	44.4
2012	960,640	648,881	23,774	70.0
2013 [2]	678,650	688,349	41,514	107.5
2014	619,512	700,938	54,945	122.0
2015	645,129	644,369	49,292	107.5
2016	659,456	617,662	68,990	104.1

[1] In fiscal year 2007, $41.3 million was transferred from the Health Advance Funding SubAccount to the Reserve for Employer Contributions in accordance with the provisions set forth in the State Employees' Retirement Act to comply with Executive Order 2007-3 and the subaccount was brought to $0.

[2] Revised actuarial assumptions.

Schedule of Investment Returns

Fiscal Year	Annual Return[1]
2014	14.01%
2015	1.01
2016	5.90

[1] Annual money-weighted rate of return net of investment expenses

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION

NOTE A – DESCRIPTION

Ten year historical trend information designed to provide information about the System's progress made in accumulating sufficient assets to pay benefits when due is presented in the preceding schedules. Other ten year historical trend information related to the System is presented in the Statistical and Actuarial Sections of the report. This information is presented to enable the reader to assess the progress made by the System in accumulating sufficient assets to pay pension and other postemployment benefits as they become due.

The comparability of trend information is affected by changes in actuarial assumptions, benefit provisions, actuarial funding methods, accounting policies, and other changes. Those changes usually affect trends in contribution requirements and in ratios that use the pension and other postemployment benefit obligations as a factor.

The Schedule of Funding Progress and Schedules of Contributions are reported as historical trend information. The Schedule of Funding Progress is presented to measure the progress being made to accumulate sufficient assets to pay benefits when due. The Schedules of Contributions are presented to show the responsibility of the Employer in meeting the actuarial requirements to maintain the System on a sound financial basis.

The Schedule of Changes in Net Pension Liability, Schedule of Net Pension Liability, Schedule of Contributions, and Schedule of Investment Returns are schedules that are required in implementing GASB Statement No. 67. These schedules are required to show information for ten years; additional years will be displayed as it becomes available. The two schedules of the Net Pension Liability represents in actuarial terms, the accrued liability less the fair value of assets. The Schedule of Contributions is a comparison of the employer's contributions to the actuarially determined contributions. The Schedule of Investment Returns represents a money-weighted rate of return that expresses investment performance, net of pension plan investment expense, adjusted for the changing amounts actually invested.

The information presented in the Schedule of Contributions was used in the actuarial valuation for purposes of determining actuarially determined contribution rate. Additional information as of the latest actuarial valuation for the pension plan follows.

Valuation:

Actuarially determined contribution amounts as of September 30 each year, which is two years and one day prior to the beginning of the fiscal year in which contributions are reported.

Methods and Assumptions Used to Determine Contributions For Fiscal Year 2016

Actuarial Cost Method	Entry Age, Normal
Amortization Method	Level Dollar, Closed
Remaining Amortization Period	21 years
Asset Valuation Method	5-Year Smoothed Fair Value
Inflation	2.5%
Salary Increases	3.5% wage inflation
Investment Rate of Return	8.00% net of investment and administrative expenses
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	RP-2000 Combined Health Life Mortality Table, adjusted for mortality improvements to 2015 using projections scale BB. For retirees, 100% of the table rates were used. For active members, 50% of the table rates were used for males and females.

Supporting Schedules

Summary Schedule of Pension Plan administrative and Other Expenses
For Fiscal Year Ended September 30, 2016
(in thousands)

Personnel Services:	
Staff Salaries	$ 1,859
Retirement and Social Security	713
Other Fringe Benefits	259
Total	2,832
Professional Services:	
Accounting	293
Actuarial	196
Attorney General	306
Audit	112
Consulting	16
Medical	140
Total	1,063
Building and Equipment:	
Building Rentals	160
Equipment Purchase, Maintenance, and Rentals	24
Total	184
Miscellaneous:	
Travel and Board Meetings	6
Office Supplies	13
Postage, Telephone, and Other	527
Printing	51
Technological Support	1,952
Total	2,549
Total Administrative and Other Expenses	$ 6,629

Summary Schedule of
OPEB Plan Administrative and Other Expenses
For Fiscal Year Ended September 30, 2016
(in thousands)

Staff Salaries	$ 377
Health Fees	23,040
Dental Fees	1,909
Vision Fees	281
Total Administrative and Other Expenses	$ 25,606

Schedule of Invesment Expenses
For Fiscal Year Ended September 30, 2016
(in thousands)

Real Estate Operating Expenses	$	291
Securities Lending Expenses		3,273
Other Investment Expenses[1]		
ORS-Investment Expenses[2]		3,442
Custody Fees		317
Management Fees		36,189
Research Fees		875
Total Investment Expenses	$	44,387

[1] Refer to the Investment Section for fees paid to investment professionals

[2] Does not exclude Treasury Civil Service fees recorded as a pass through in the Schedule of Investment Fees - State Treasurer. As of September 30, 2016, fees totaled $48,794

Schedule of Payments for Professional Services
For Fiscal Year Ended September 30, 2016
(in thousands)

Accounting	$	293
Actuary		196
Attorney General		306
Independent Auditors		112
Consulting		16
Medical Advisor		140
Total Payments	$	1,063

Supporting Schedules (Continued)

Detail of Changes in Plan Fiduciary Net Position (Pension and Other Postemployment Benefits) For the Fiscal Year Ended September 30, 2016 (in thousands)

	Employee Contributions	Employer Contributions	Retired Benefit Payments	Undistributed Investment Income	OPEB	Total
Additions:						
Contributions:						
Member contributions	$ 46,666				$ 38,661	$ 85,327
Employer contributions:		$ 716,465			617,662	1,334,127
Other governmental contributions					68,990	68,990
Total contributions	46,666	716,465			725,314	1,488,444
Investment income (loss):						
Net increase (decrease) in fair value of investments				$ 566,541	74,335	640,875
Interest, dividends, and other				235,243	30,354	265,597
Investment expenses:						
Real estate operating expenses				(258)	(33)	(291)
Other investment expenses				(36,186)	(4,636)	(40,822)
Securities lending activities:						
Securities lending income				19,106	2,456	21,562
Securities lending expenses				(2,917)	(356)	(3,273)
Net investment income (loss)				781,528	102,120	883,648
Transfers from other systems	3					3
Miscellaneous income			$ 98	22	199	319
Total additions	46,669	716,465	98	781,550	827,633	2,372,415
Deductions:						-
Benefits paid to plan members and beneficiaries:						
Retirement benefits			1,289,598			1,289,598
Health benefits					455,156	455,156
Dental/vision benefits					42,961	42,961
Personal health care					4,151	4,151
Health reimbursement account					48	48
Refund of contributions	24	85	2	20	39	169
Transfers to other systems						
Administrative and other expenses				6,629	25,606	32,235
Total deductions	24	85	1,289,600	6,649	527,962	1,824,319
Net Increase (Decrease) before other changes	46,646	716,380	(1,289,502)	774,902	299,671	548,096
Other Changes in Net Position:						
Interest allocation	6,934	43	331,775	(338,753)		
Transfers upon retirement	(31,852)		31,852			
Transfers of employer shares						
Total other changes in net position	(24,918)	43	363,627	(338,753)		
Net Increase (Decrease) in Net Position	21,727	716,424	(925,875)	436,149	299,671	548,096
Net Position Restricted for Pension Benefits and OPEB:						
Beginning of Year	258,290	543	12,760,582	(2,287,498)	1,302,111	12,034,029
End of Year	$ 280,017	$ 716,967	$ 11,834,707	$ (1,851,349)	$ 1,601,782	$ 12,582,125

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INVESTMENT SECTION

Prepared by Michigan Department of Treasury, Bureau of Investments
Jon M. Braeutigam, Chief Investment Officer

INVESTMENT SECTION

Report on Investment Activity

INTRODUCTION

The State Treasurer reports investment activity quarterly to the Investment Advisory Committee (Committee), which reviews the investments, goals, and objectives of the retirement funds and may submit recommendations regarding them to the State Treasurer. The Investment Advisory Committee may also, by a majority vote, direct the State Treasurer to dispose of any holdings that, in the Committee's judgment, are not suitable for the funds involved, and may, by unanimous vote, direct the State Treasurer to make specific investments.

The Investment Advisory Committee was created by Act 380 of the Public Acts of 1965. The three public members of the five-member committee are appointed by the Governor with the advice and consent of the Senate for three-year terms. The Director of the Department of Licensing and Regulatory Affairs and the Director of the Department of Technology, Management and Budget are ex-officio members. As of September 30, 2016, members of the Committee were as follows: James B. Nicholson (public member), L. Erik Lundberg, CFA (public member), Reginald G. Sanders, CFA, CAIA (public member), Shelly Edgerton (ex-officio member), and David Behen (ex-officio member). The public members serve without pay, but may be paid actual and necessary travel and other expenses..

INVESTMENT POLICY & GOALS

Investment policy states that the fiduciary will operate within standard investment practices of the prudent person and in accordance with Public Employee Retirement System Investment Act 314 of 1965. The fiduciary is authorized to invest in government obligations, corporate obligations, various short-term obligations, corporate (domestic and international) stocks, private equity interests, mutual funds, real estate interests, and other investments subject to specific parameters. Above all, trust fund assets are to be invested for the exclusive benefit of the members of the System, in a fiduciary capacity.

The System's Proxy Voting Policy sets forth directives on various issues including: Boards of Directors, corporate governance, social issues, corporate restructurings and defenses. All proxies are reviewed and voted in accordance with the System's policy.

The primary function of the System is to provide retirement, survivor and disability benefits along with health and other postemployment benefits to its members. The State Treasurer is the sole investment fiduciary and custodian of the System's investments pursuant to State law. The goals of the System are:

- Maintain sufficient liquidity to pay benefits.
- Meet or exceed the actuarial assumption over the long term.
- Perform in the top half of the public plan universe over the long term
- Diversify assets to preserve capital and avoid large losses.
- Exceed individual asset class benchmarks over the long term.

The strategy for achieving these goals is carried out by investing the assets of the System according to a five-year asset allocation model. The System currently invests in seven different asset classes, which provides for a well-diversified portfolio.

Report on Investment Activity (Continued)

ASSET ALLOCATION

Asset Allocation
(Excludes Collateral on Loaned Securities)

Investment Category	As of 9/30/16 Actual %	Five-Year Target %
Domestic Equity Pools	26.1 %	28.0 %
International Equity Pools	15.9	16.0
Private Equity Pools	15.3	18.0
Real Estate and Infrastructure Pools	10.6	10.0
Fixed Income Pools	13.2	10.5
Absolute Return Pools	15.2	15.5
Short-Term Investment Pools	3.7	2.0
TOTAL	**100.0 %**	**100.0 %**

INVESTMENT AUTHORITY

Pursuant to State Law (Section 91 of Public Act 380 of 1965, as amended, and Section 12c of Public Act 314 of 1965, as amended), the State Treasurer, State of Michigan, is the investment fiduciary for the following four State sponsored retirement systems: Michigan Public School Employees' Retirement System, Michigan State Employees' Retirement System, Michigan State Police Retirement System, and Michigan Judges' Retirement System.

Public Act 314 of 1965, as amended, authorizes the investment of assets of public employee retirement systems or plans created and established by the State or any political subdivision.

INVESTMENT RESULTS

Total Portfolio Results

For the fiscal year ended September 30, 2016, the total System's rate of return was 7.6% for the Pension Plan and 7.5% for the OPEB Plan as compiled by State Street Investment Analytics. Annualized rates of return for the Pension Plan for the three, five, and ten year periods ending September 30, 2016 were: 8.4%, 10.2%, and 6.1% respectively.

At its December 2016 meeting, the Federal Open Market Committee announced the decision to raise the federal funds rate by 0.25%. This is the first change in this interest rate in over seven years, and the first hike since mid-2006. At the time, it was anticipated that there would be up to four additional rate hikes during fiscal year 2016, however, the December hike would prove to be the only one. During the early winter months of December, January, and February, risk assets were under great pressure. The U.S. equity benchmark S&P 500 Index fell more than 14% from its high and spreads on high yield bonds widened significantly, especially in companies linked to the energy sector. The price for a barrel of crude oil hit a low in mid-February, having dropped more than $80 per barrel (more than ¾'ths of its value) over the preceding eighteen months. As expected during troubled times, safe haven assets like the 10-year U.S. Treasury rallied. The rate on the U.S. Treasury dropped more than 0.8% from its 2016 high to a 1.6% level, near the lower end of the five year range.

The markets found firmer footing in the late winter months and rallied into the end of the fiscal year. The S&P 500 Index would hit an all-time closing high in August 2016, the price for a barrel of crude oil would rebound more than $20 per barrel by June and hold that level into the end of September, ***and high yield*** spreads would persistently grind lower. Paradoxically, the 10-year U.S. Treasury rate continued to fall another 0.3% through July and ended September 2016 at 1.59%.

Through the market gyrations of fiscal year 2016, the fundamentals of the U.S. economy remained modestly positive. Growth in gross domestic product averaged around 1% through the year. The consumer is continuing to do better in fiscal 2016; non-farm payrolls averaged a monthly increase over 200,000, the unemployment rate remained below 5% for most of the year, and wage growth continues to grow higher as well. Like last year, during the late fall the market is looking for a December Fed rate hike and for the interest rate policies to become more normal. Will fiscal year 2017 be a repeat of this fiscal year, or will new information sway the directions of the markets? Time will tell.

Investment return calculations are prepared using a Time-Weighted rate of return.

Domestic Equity Pools

The objective for investments made in domestic equities is to meet or exceed the total return of the S&P 1500 Super Composite for one, three, and five-year periods and a market cycle.

For active management strategies, the objective is to earn returns that exceed the most relevant S&P Index (or the most relevant Russell Index), adjusting for market capitalization and style, for one, three, and five-year periods and a market cycle. Rank above median in a universe of managers possessing a similar market cap and style characteristics.

For index, or passive return strategies, the objective is to return within 20 basis points of the S&P 500 Index, 50 basis points for the S&P 400 mid-cap, and 60 basis points for the S&P 600 small-cap over one, three, and five-year periods and a market cycle.

The pools are invested primarily in equities or equity-related securities of U.S. companies through internal and externally managed strategies. The goal is to build a portfolio of strategies that will provide excess returns relative to the S&P 1500 while providing minimal tracking error to the index. At times a portion of these pools may be invested in exchange traded funds (ETFs) and fixed-income short-term securities with maturities of less than one year.

The pools invest in equities and equity related securities that are listed on U.S. national securities exchanges, including American Depository Receipts (ADRs). They may also invest in stocks that are traded over-the-counter. The pools diversify their investments by allocating their equity strategies with consideration of the capitalization weightings of the S&P 1500 Index.

The following summarizes the weightings of the pools as of September 30, 2016:

Active	52.2 %
Passive	47.8
Total	**100.0 %**

Large-Cap	67.1 %
Multi-Cap	23.5
Mid-Cap	7.5
Small-Cap	1.9
Total	**100.0 %**

Report on Investment Activity (Continued)

The System's Domestic Equity pools total rate of return was 12.2% for the Pension Plan and 12.1% for the OPEB Plan for fiscal year 2016. This compared with 15.5% for the S&P 1500 Index.

At the close of fiscal year 2016, the Domestic Equity pools represented 26.1% of total investments. The following summarizes the System's 20.1% ownership share of the Domestic Equity pools at September 30, 2016:

Domestic Equity Pools
(in thousands)

Short-Term Pooled Investments	$	11,675
Equities		3,184,154
Fair Value of Equity Contracts		(1,016)
Settlement Principal Payable		(4,686)
Settlement Proceeds Receivable		54,862
Accrued Dividends		3,481
Total	**$**	**3,248,470**

International Equity Pools

The objective for investments made in International Equity pools is to meet or exceed the total return of the MSCI ACWI Ex-US Net for one, three, and five-year periods and a market cycle.

For active management strategies, the objective is to earn returns that exceed the most relevant S&P Index (or the most relevant Russell Index), adjusting for market capitalization, style and geography for one, three, and five-year periods and a market cycle. Rank above median in a universe of managers possessing a similar market capitalization, style and geography characteristics.

For index, or passive return strategies, the objective is to return within 250 basis points of the S&P/Citigroup BMI-EPAC Index with 25% of the currency hedged for one, three, and five-year periods and a market cycle. Return within 400 basis points of the MSCI Emerging Markets Index, for one, three, and five-year periods and a market cycle.

Active exposure is invested primarily in equities or equity-related securities of non-U.S. companies through externally managed strategies.

Passive exposure to International Equity returns is achieved primarily by investing in a combination of fixed income LIBOR notes, short-term fixed income investments, and equity swap agreements on foreign stock indices in developed markets. Interest on the dedicated notes and short-term fixed income investments is exchanged for international stock returns, and the total notional amount of the swap agreements is invested in the approximate proportions of the S&P Broad Market Index (BMI) Europe and Pacific Composite (EPAC) country weightings in related indices. Use of swap agreements for a core position began in 1993, an American Depository Receipts (ADR) and index-related security portfolio was added in June of 1999 to increase portfolio management flexibility, and a multiple country fund portfolio with smaller capitalization stocks was added in September of 2002 to improve exposure to the smallest companies in the BMI index. Use of futures as an investment to hedge cash flows and balances began in December of 2008, and this use is expected to continue in the future. The combined Swap agreements, notes and short-term investments together continue to perform like a stock index fund that realizes all gains and losses on a rolling three year basis.

The pools diversify their investments by allocating their equity strategies with consideration of the economic development status weightings of the S&P/Citigroup BMI -World ex-US Index.

Report on Investment Activity (Continued)

The following summarizes the weightings of the pool as of September 30, 2016:

Active	51.2 %
Passive	48.8
Total	**100.0 %**

Developed	82.2 %
Emerging	17.8
Total	**100.0 %**

The System's International Equity pools total rate of return was 9.9% for the Pension and OPEB Plans for fiscal year 2016. This compared with 9.3% for the MSCI ACWI Ex US Net.

At the close of fiscal year 2016, the International Equity pools represented 15.9% of total investments. The following summarizes the System's 20.4% ownership share of the International Equity Pools at September 30, 2016:

International Equity Pools
(in thousands)

Short-Term Pooled Investments	$ 26,675
Equities	1,741,382
Fixed Income Securities	191,963
Fair Value of Equity Contracts	16,961
Accrued Dividends and Interest	623
Total	**$ 1,977,604**

Private Equity Pools

The Private Equity pools objective is to meet or exceed the benchmark for all private equity investments over long time periods. The benchmark is a blend of the S&P 500 Index plus 300 basis points and the 10 Year Yield plus 300 basis points using ending weights of equity and fixed income holdings within the portfolio.

Private Equity Investments are investments in the private equity market, primarily through limited partnerships. The following summarizes the weightings of the pools as of September 30, 2016:

Buyout Funds	46.9 %
Special Situation Funds	17.1
Liquidation Portfolio	15.8
Venture Capital Funds	11.4
Fund of Funds	7.0
Mezzanine Funds	1.8
Total	**100.0 %**

The Private Equity pools had a return of 3.6% for the Pension and OPEB Plans for the fiscal year ended September 30, 2016, versus the benchmark of 7.1%.

Report on Investment Activity (Continued)

At the close of fiscal year 2016, the Private Equity pools represented 15.3% of total investments. The following summarizes the System's 19.0% ownership share of the Private Equity pools at September 30, 2016:

Private Equity Pools
(in thousands)

Short-Term Pooled Investments	$ 30,136
Equities	1,871,732
Long Term Obligations	5,625
Settlement Proceeds Receivable	50
Accrued Interest	227
Total	**$ 1,907,770**

Real Estate and Infrastructure Pools

The objective of the Real Estate and Infrastructure pools is to provide diversification and favorable risk adjusted returns primarily through income and appreciation of investments. Investments are typically held through investment entities, such as limited partnerships or limited liability companies, established for the specific purpose of owning, leasing, managing, financing, or developing real estate and infrastructure related investments.

The Real Estate and Infrastructure pools diversify its holdings by:

- **Geography** – The pools are invested globally and are diversified geographically so that it is not concentrated in a limited number of markets or geographic areas.
- **Size and Value** – The pools diversify its holdings by size so that it is not concentrated in a limited number of large investments.
- **Investment Type** – The pools are diversified by investment type as summarized below.

Multi-family apartments	34.6 %
Hotel	14.0
Commercial office buildings	15.9
Infrastructure	9.5
Industrial warehouse buildings	6.8
Retail shopping centers	5.4
For Rent Homes	6.4
For Sale Homes	5.1
Land	1.8
Short Term Investments	0.5
Total	**100.0 %**

The Real Estate and Infrastructure pools generated a return of 10.4% for the Pension and OPEB Plans for fiscal year 2016. The two benchmark returns from the National Council of Real Estate Investment Fiduciaries: the National Property Blended Index (less 130 basis points) was 7.8% and the Open-End Diversified Core Equity Index was 9.1%.

Report on Investment Activity (Continued)

At the close of fiscal year 2016, the Real Estate and Infrastructure pools represented 10.6% of total investments. The following summarizes the System's 20.2% ownership share of the Real Estate and Infrastructure pools at September 30, 2016:

Real Estate and Infrastructure Pools
(in thousands)

Short-Term Pooled Investments	$	6,807
Real Estate Equities		1,191,909
Infrastructure Equities		126,089
Total	**$**	**1,324,805**

Fixed Income Pools

The objective for investments made in the Fixed Income pools is to meet or exceed the Barclays Aggregate Bond Index over one, three, and five-year periods and market cycles. Rank above median in a nationally recognized universe of managers possessing a similar style.

For Fixed Income sub-strategies, the objective return is to meet or exceed the most relevant Barclays benchmark index.

The pools are invested primarily in fixed income securities of U.S. companies through internal and externally managed strategies. The goal is to build a portfolio of strategies that will provide excess returns relative to the blended benchmark while providing minimal tracking error to the index. At times a portion of the pools may be invested in exchange traded funds (ETFs) and fixed-income short-term securities with maturities of less than one year.

The pools invest in fixed income and related securities in a diversified portfolio of investment grade corporate issues, treasuries, agencies, government sponsored enterprises and government guaranteed mortgages. The pools diversify its investments by allocating its strategies with consideration of credit risk.

The System's Fixed Income pools total rate of return was 7.3% for the Pension and OPEB Plans for fiscal year 2016. This compared with 5.2% for the Barclays Aggregate Bond benchmark.

At the close of fiscal year 2016, the Fixed Income pools represented 13.2% of total investments. The following summarizes the System's 20.8% ownership share of the Fixed Income pools at September 30, 2016:

Fixed Income Pools
(in thousands)

Short-Term Pooled Investments	$	22,072
Fixed Income Securities		1,614,906
Settlement Principal Payable		(11,014)
Settlement Proceeds Receivable		5,527
Accrued interest		5,795
Total	**$**	**1,637,286**

Report on Investment Activity (Continued)

Absolute Return Pools

The Absolute Return Pools consist of the Absolute Return Strategies Pool and the Real Return and Opportunistic Investment Pool.

The primary investment objective of the Absolute Return Strategies Pool is to generate a rate of return that meets or exceeds T-bills by 400 basis points net of fees over the one, three, and five-year periods and a market cycle. Also, exceed the appropriate HFN Fund of Funds median net of fees over one, three, and five-year periods and a market cycle.

The Absolute Return Strategies pool rate of return for the fiscal year was -1.7% for the Pension and OPEB Plans versus the benchmark's -1.3%.

The primary investment objective of the Real Return and Opportunistic Pool is to generate a rate of return that meets or exceeds the increase in the CPI by at least five percent (5%) annually net of fees over one, three, and five-year periods and a market cycle. If a peer universe is available, rank above median in a nationally recognized universe of managers possessing a similar style.

For sub-strategies targeting a commodities index, the objective is to generate a rate of return that meets or exceeds the Dow Jones-AIG Total Return Commodities Index over one, three, and five year periods and a market cycle. Rank above median in a nationally recognized universe of managers possessing a similar style.

The Real Return and Opportunistic Investments pool rate of return for the fiscal year was 5.4% for the Pension and OPEB Plans versus the benchmark's 7.3%.

At the close of fiscal year 2016, the Absolute Return Pools represented 15.2% of total investments. The following summarizes the System's 20.2% ownership share of the Absolute Return Pools at September 30, 2016:

Absolute Return Pools
(in thousands)

Short-Term Pooled Investments	$ 17,843
Equities	1,853,360
Long-Term Obligations	20,158
Settlement Principal Payable	11
Accrued Interest and Dividends	537
Total	**$ 1,891,909**

Short-Term Investment Pools

The objective of the Short-Term Investment pools is to closely match the return performance of its benchmark, the 30 day Treasury bill. The Short-Term Investment pools return for the fiscal year was 0.7% for the Pension Plan and 0.7% for the OPEB plan versus the benchmark's 0.2%.

Potential areas of investment are:

- Obligations of the United States or its agencies.
- Banker's acceptances, commercial accounts, certificates of deposit or depository receipts.
- Repurchase agreements for the purchase of securities issued by the US government or its agencies.
- Commercial paper rated at the time of purchase within the two highest classifications established by not less than two national rating services as determined by the State Treasurer.
- Short duration investment grade corporate issues.

Report on Investment Activity (Continued)

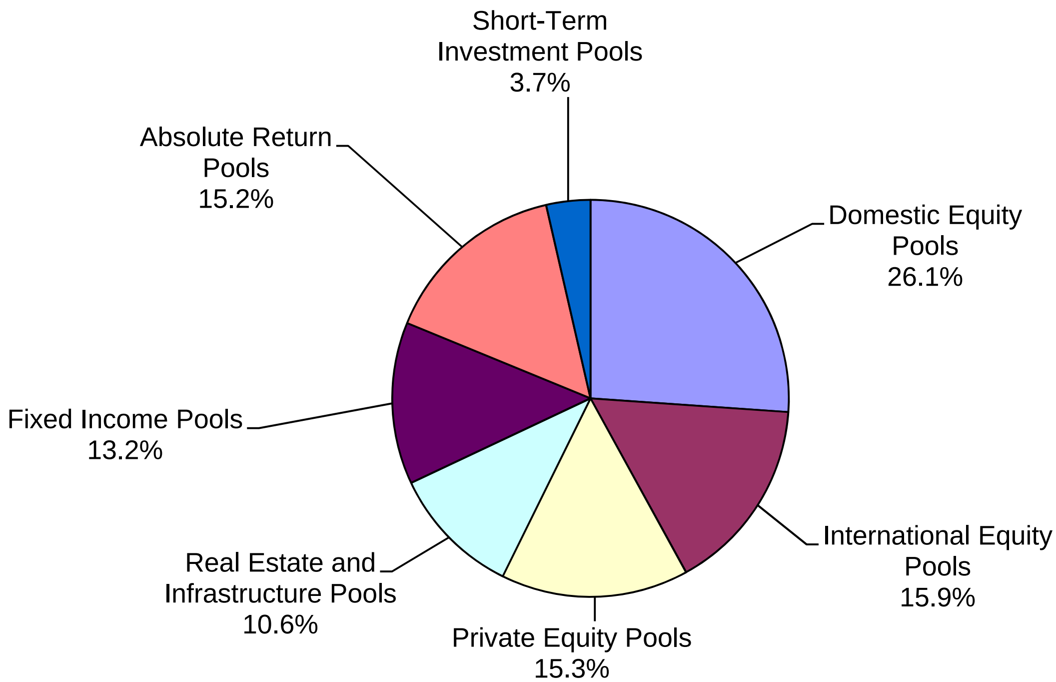
At the close of fiscal year 2016, the Short-Term Investment pools represented 3.7% of total investments. The following summarizes the System's 22.3% ownership share of the Short Term Investment pools at September 30, 2016:

Short-Term Investment Pools
(in thousands)

Short-Term Pooled Investments	$	348,549
Fixed Income Securities		115,998
Accrued interest		167
Total	**$**	**464,714**

Report on Investment Activity (Continued)

ASSET ALLOCATION – SECURITY TYPE ONLY



Report on Investment Activity (Continued)

Pension Plan Investment Results for the Period Ending September 30, 2016

		Annualized Rate of Return[1]		
Investment Category	**Current Year**	**3 Years**	**5 Years**	**10 Years**
Total Portfolio	7.6 %	8.4 %	10.2 %	6.1 %
Domestic Equity Pools	12.2	10.2	16.1	7.2
S&P 1500 Index	15.5	10.9	16.4	7.4
International Equity Pools	9.9	2.1	7.7	2.0
International Blended Benchmark [2]	9.3	0.3	6.3	1.0
Private Equity Pools	3.6	13.2	11.6	11.2
Private Equity Blended Benchmark [3]	7.1	14.8	15.2	11.2
Real Estate and Infrastructure Pools	10.4	13.9	11.7	5.2
NCREIF Property Blended Index [4]	7.8	9.9	9.8	5.9
Fixed Income Pools	7.3	5.0	4.2	5.7
Barclays Aggregate Bond	5.2	4.0	3.1	4.8
Absolute Return Pools				
Total Absolute Return	(1.7)	3.2	4.9	
HFRI Fund of Funds Cons 1 month lag	(1.3)	2.3	2.6	
Total Real Return and Opportunistic	5.4	12.1	9.8	
Real Return and Opportunistic Benchmark [5]	7.3	7.0	7.2	
Short Term Investment Pools	0.7	0.5	0.4	0.7
30 Day Treasury Bill	0.2	0.1	0.1	0.8

[1] Calculations used a time-weighted rate of return based on the market rate of return in accordance with industry standards. Excludes income and investment gains and losses from securities lending.

[2] As of 7/1/14, index is MSCI ACWI Ex-US Net. History 10/1/10 to 6/30/14 is MSCI ACWI Ex-US Gross. History 1/1/10 to 9/30/10 is S&P Developed BMI-EPAC Net 75/25. History prior to 1/1/10 is S&P Developed BMI-EPAC Net 50/50.

[3] As of 1/1/07, index is blend of S&P 500 plus 300 bps and 10 year yield plus 300 bps based on ending weights. History prior to 1/1/07 is S&P500 plus 300 bps.

[4] As of 10/1/05, index is NCREIF less 130 bp. History prior to 10/1/05 reflects NCREIF less 75 bp.

[5] Benchmark is 50% (CPI + 5%) and 50% (actuarial rate 8%).

Report on Investment Activity (Continued)

OPEB Investment Results for the Period Ending September 30, 2016

Investment Category	Current Year	Annualized Rate of Return[1] 3 Years	5 Years
Total Portfolio	7.5 %	8.3 %	9.7 %
Domestic Equity Pools	12.1	10.3	16.2
S&P 1500 Index	15.5	10.9	16.4
International Equity Pools	9.9	2.1	7.7
International Blended Benchmark [2]	9.3	0.3	6.3
Private Equity Pools	3.6	13.2	11.6
Private Equity Blended Benchmark [3]	7.1	14.8	15.2
Real Estate and Infrastructure Pools	10.4	13.9	11.7
NCREIF Property Blended Index [4]	7.8	9.9	9.8
Fixed Income Pools	7.3	5.0	4.2
Barclays Aggregate Bond	5.2	4.0	3.1
Absolute Return Pools			
Total Absolute Return	(1.7)	3.2	4.9
HFRI Fund of Funds Cons 1 month lag	(1.3)	2.3	2.6
Total Real Return and Opportunistic	5.4	12.1	9.8
Real Return and Opportunistic Benchmark [5]	7.3	7.0	7.2
Short-Term Investment Pools	0.7	0.4	0.4
30-Day Treasury Bill	0.2	0.1	0.1

[1] Calculations used a time-weighted rate of return based on the market rate of return in accordance with industry standards. Excludes income and investment gains and losses from securities lending.

[2] As of 7/1/14, index is MSCI ACWI Ex-US Net. History 10/1/10 to 6/30/14 is MSCI ACWI Ex-US Gross. History 1/1/10 to 9/30/10 is S&P Developed BMI-EPAC Net 75/25. History prior to 1/1/10 is S&P Developed BMI-EPAC Net 50/50.

[3] As of 1/1/07, index is blend of S&P 500 plus 300 bps and 10 year yield plus 300 bps based on ending weights. History prior to 1/1/07 is S&P500 plus 300 bps.

[4] As of 10/1/05, index is NCREIF less 130 bp. History prior to 10/1/05 reflects NCREIF less 75 bp.

[5] Benchmark is 50% (CPI + 5%) and 50% (actuarial rate 8%).

Largest Assets Held[1]

Largest Stock Holdings (By Fair Value)
September 30, 2016

Rank	Shares	Stocks	Fair Value
1	1,024,743	Apple Inc	$ 115,847,210
2	592,650	Berkshire Hawhaway Inc Class B	85,620,144
3	1,611,411	Verizon Communications Inc	83,761,132
4	1,059,024	JP Morgan Chanse & Co	70,520,418
5	1,422,702	Wells Fargo & Co	62,997,252
6	957,949	Microsoft Corp	55,177,844
7	689,351	Gilead Sciences Inc	54,541,433
8	374,654	Facebook Inc	48,056,918
9	539,123	CVS Health Corp	47,976,540
10	55,609	Alphabet Inc Class A	44,713,002

Largest Bond Holdings (By Fair Value)[2]
September 30, 2016

Rank	Par Amount	Bonds & Notes	Fair Value
1	$ 40,969,696	US Treasury N/B 0.625% Due 06/30/2018	$ 40,880,054
2	30,051,080	Apple Inc 1.947% Due 02/23/2021	30,960,606
3	24,039,228	US Treasury N/B 2.125% Due 05/15/2025	25,132,268
4	24,953,526	US Treasury N/B 1.625% Due 02/15/2026	24,996,421
5	21,959,103	US Treasury N/B 1.500% Due 03/31/2023	22,116,066
6	20,069,669	Citigroup Inc, 2.217690% FRN Due 03/30/2021	20,406,097
7	17,011,137	Morgan Stanley 2.097% FRN Due 04/21/2021	17,339,537
8	14,972,115	US Treasury N/B 2.125% Due 06/30/2022	15,660,488
9	14,972,115	US Treasury N/B 1.375% Due 05/03/2021	15,134,114
10	14,972,115	US Treasury N/B 1.125% Due 07/31/2021	14,950,481

[1] A complete list of holdings is available from the Michigan Department of Treasury.
The System's investments are commingled in various pooled accounts. Amounts, par value and number of shares represent the System's pro-rata share based on its ownership of the investment pools.

[2] Largest Bond Holdings are exclusive of securities lending collateral.

Schedule of Investment Fees

The State Treasurer is the investment fiduciary and custodian of the System's funds pursuant to State law. Outside advisors are utilized to augment the State Treasurer's internal staff. 65.30% of the total investment portfolio is managed by fully discretionary outside advisors. The Michigan Department of Treasury's cost of operations applicable to the System for the fiscal year amounted to $77 thousand or eight and one tenth basis points (.080%) of the fair value of the Assets under Management of the State Treasurer.

Public Act 380 of 1965 created an Investment Advisory Committee (Committee) comprised of the directors of the Department of Licensing and Regulatory Affairs and the Department of Technology, Management & Budget, or their duly authorized representatives, and three public members appointed by the Governor with the advice and consent of the Senate. The public members serve without pay, but may be paid actual and necessary travel and other expenses. The Committee meets quarterly to review investments, goals and objectives and may submit recommendations to the State Treasurer. The Committee may also, by a majority vote, direct the State Treasurer to dispose of any holding which, in the Committee's judgment, is not suitable for the fund involved, and may by unanimous vote direct the State Treasurer to make specific investments.

Schedule of Investment Fees

Investment Managers' Fees:

	Assets under Management (in thousands)	Fees (in thousands)	Basis Points*
State Treasurer	$ 4,320,946	$ 3,486	8.1
Outside Advisors for			
Fixed Income	645,465	2,095	32.5
Absolute Return	1,857,056	4,707	25.3
International Equity	1,656,673	2,911	17.6
Domestic Equity	739,843	1,552	21.0
Private Equity	1,907,770	17,295	90.7
Real Estate and Infrastructure	1,324,805	7,627	57.6
Total	**$ 12,452,558**	**$ 39,673**	

Other Investment Services Fees:

Assets in Custody	$ 12,378,716	$ 1,193
Securities on Loan	857,919	823

* Private Equity partnership agreements that define the management fees, the asset management fees range from 75 basis points on remaining assets under management to 250 basis points of the committed capital. For Real Estate/Infrastructure, the asset management fees range from 40 to 200 basis points. For Absolute Return, the asset management fees range from 0 to 200 basis points. These fees, in most cases, are netted against income.

Schedule of Investment Commissions

	Fiscal Year Ended September 30, 2016						
	Actual Commissions Paid [1]	Actual Number of Shares Traded [1]	Average Commission Per Share	Estimated Trade Costs Per Share	Estimated Research Costs Per Share	Estimated Trade Costs	Estimated Research Costs
Investment Brokerage Firms:							
Banc Of America Securities LLC	$ 9,140	264,908	$ 0.03	$ 0.01	$ 0.02	$ 2,649	$ 5,298
Barclays Capital Inc.	23,517	2,843,849	0.01	0.01	-	28,438	-
BNY Convergex Execution Solutions LLC	1,821	92,369	0.02	0.01	0.01	924	924
BTIG LLC	228,486	71,363,124	0.00	0.01	-	713,631	-
Capital Institutional Services Inc.	9,489	948,871	0.01	0.01	-	9,489	-
Citigroup Global Markets Inc.	6,824	341,175	0.02	0.01	0.01	3,412	3,411
Cowen & Company LLC	27,408	1,370,438	0.02	0.01	0.01	13,704	13,704
Credit Suisse Securities LLC	51,023	2,825,371	0.02	0.01	0.01	28,254	28,254
Drexel Hamilton	14,536	2,906,807	0.01	0.01	-	29,068	-
Goldman, Sachs & Co.	22	2,135	0.01	0.01	-	22	-
H. C. Wainwright & Co.	7,165	372,552	0.02	0.01	0.01	3,725	3,725
Jefferies & Company	11	1,157	0.01	0.01	-	12	-
J. P. Morgan Securities Inc.	55,476	9,194,619	0.01	0.01	-	91,946	-
Merrill Lynch,Pierce,Fenner & Smith Inc.	23	2,317	0.01	0.01	-	23	-
Mischler Financial Group Inc.	13,844	692,179	0.02	0.01	0.01	6,922	6,922
Morgan Stanley & Co. Inc.	42,475	2,114,505	0.02	0.01	0.01	21,145	21,146
OTA LLC	21,442	1,036,359	0.02	0.01	0.01	10,364	10,364
Piper Jaffray & Co.	74	7,444	0.01	0.01	-	74	-
RBC Capital Markets	8	766	0.01	0.01	-	8	-
Stifel, Nicolaus & Co. Inc.	319	7,976	0.04	0.01	0.03	79	239
Total	**$ 513,103**	**96,388,921**	**$ 0.02** [2]	**$ 0.01**	**$ 0.01**	**$ 963,889**	**$ 93,987**

[1] Commissions are included in purchase and sale prices of investments. The commissions and shares represent the System's pro-rata share based on ownership of commission and share transactions in the investment pools.

[2] The average commission per share for all brokerage firms.

Investment Summary

Fiscal Year Ended September 30, 2016

	Fair Value [1]	Percent of Total Fair Value	Investment & Interest Income[2]	Percent of Total Investment & Interest Income
Fixed Income Pools	$ 1,637,286,092	13.2 %	$ 108,858,971	12.0 %
Domestic Equity Pools	3,248,470,491	26.1	371,501,639	41.0
Real Estate and Infrastructure Pools	1,324,804,545	10.6	115,614,802	12.8
Private Equity Pools	1,907,770,436	15.3	91,246,991	10.1
International Equity Pools	1,977,603,442	15.9	171,050,339	18.9
Absolute Return Pools	1,891,908,846	15.2	45,396,824	5.0
Short Term Investment Pools	464,713,612 [3]	3.7	1,666,302	0.2
Total	$ 12,452,557,464	100.0 %	$ 905,335,868	100.0 %

[1] Fair Value excludes $873,387,619 in securities lending collateral for fiscal year 2016.

[2] Total Investment & Interest Income excludes net security lending income of $18,288,984 and unrealized gain of $1,095,180 for securities lending collateral.

[3] Short term investment pools fair value includes $73,841,517 of equity in common cash.

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ACTUARIAL SECTION

Actuary's Certification

GRS
Gabriel Roeder Smith & Company
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One Towne Square
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248.799.9000 phone
248.799.9020 fax
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October 21, 2016

Mr. David Behen, Director
Department of Technology, Management and Budget
and
The Retirement Board
Michigan State Employees Retirement System
P.O. Box 30171
Lansing, Michigan 48909

Ladies and Gentlemen:

The basic financial objective of the Michigan State Employees Retirement System (SERS) is to establish and receive contributions which when combined with present assets and future investment return will be sufficient to meet the financial obligations of the System to present and future benefit recipients. The progress towards meeting those financial objectives is illustrated in the Schedules of Funding Progress and the Schedules of Employer Contributions.

We performed actuarial valuations and issued actuarial reports for SERS as of September 30, 2015. The purpose of the September 30, 2015 annual actuarial valuations was to determine the contribution requirements for the fiscal year ending September 30, 2016, to measure the System's funding progress, and to provide actuarial information in connection with applicable Governmental Accounting Standards Board statements. The valuations should not be relied upon for any other purpose. The valuation process develops employer contributions that are sufficient to fund the System's normal cost (i.e., the costs assigned by the valuation method to the year of service about to be rendered), as well as to fund any unfunded accrued liabilities over a reasonable period. The valuation was completed based upon population data, asset data and plan provisions in effect on September 30, 2015.

The valuation was based upon information provided by the System's administrative staff concerning System benefit provisions, financial transactions, and individual members, terminated members, retirees and beneficiaries. We checked the data for internal and year to year consistency, but did not audit the data. As a result, we do not assume responsibility for the accuracy or completeness of the data provided by the System's administrative staff. The actuary summarizes and tabulates population data in order to analyze long term trends. The System's external auditor audits the actuarial data annually.

Annual actuarial valuations are based upon assumptions regarding future activity in specific risk areas including the rate 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 and the Department after considering the advice of the actuary and other professionals. The assumptions and the methods comply with the disclosure requirements of the applicable GASB Statements. Each actuarial valuation takes into account all prior differences between actual and assumed experience in each risk area and adjusts the contribution requirements as needed.

Actuary's Certification (continued)

Mr. David Behen
October 21, 2016
Page 2

Our firm provided the following supporting schedules for use in the Comprehensive Annual Financial Report:

Financial Section

- Note 1 - Table of System's Membership
- Note 3 - Summary of Actuarial Assumptions
- Schedules of Funding Progress
- Schedules of Employer Contributions (Annual Required Contribution)

Actuarial Section

- Summary of Actuarial Assumptions and Methods
- Percent of Eligible Active Members Retiring Within Next Year
- Separation from Active Employment Before Age and Service Retirement and Individual Pay Increase Assumptions
- Schedule of Active Member Pension Valuation Data
- Schedule of Changes in the Retirement Rolls
- Prioritized Solvency Tests
- Analyses of System Experience
- Schedule of Active Member OPEB Valuation Data
- Schedule of Changes in the OPEB Rolls

Statistical Section

- Schedule of Retired Members by Type of Retirement
- Schedule of Retired Members by Type of Pension Benefit (Selected Option)
- Schedule of Retired Members by Type of Health Benefit
- Schedule of Average Benefit Payments – Pension, Medical, Dental, and Vision

In addition, we provided the Schedule of OPEB Unfunded Actuarial Accrued Liability by Tier.

The September 30, 2015 valuations were based upon assumptions that were recommended in connection with a study of System experience covering the period from October 1, 2007 through September 30, 2012. 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 assumption/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.

Gabriel Roeder Smith & Company

Actuary's Certification (continued)

The signing actuaries are independent of the plan sponsor.

The actuarial valuations of SERS as of September 30, 2015 were performed by qualified actuaries in accordance with standards of practice prescribed by the Actuarial Standards Board and in compliance with applicable State statutes. Louise Gates and Mita Drazilov 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. It is our opinion that the calculated employer contribution meets the financial objective of the Retirement System.

Respectfully submitted,

Louise Gates   Mita Drazilov

Louise M. Gates, ASA, MAAA   Mita D. Drazilov, ASA, MAAA

Summary of Actuarial Assumptions & Methods

1. The investment return rate used in the valuations was 8% per year net of expenses, compounded annually. This rate of return is not the assumed real rate of return. The real rate of return is the rate of investment return in excess of the inflation rate. Considering other financial assumptions, this investment return rate translates to an assumed long-term real rate of return of 4.5%. Adopted 2004.

2. The healthy life mortality table used in evaluating allowances to be paid was the RP-2000 Combined Healthy Mortality Table, adjusted for mortality improvements to 2015 using projection scale BB. Adopted 2014.

3. Sample probabilities of regular, unreduced retirement are shown in Schedule 1 on the next page. Adopted 2010.

4. Sample probabilities of withdrawal from service and disability, together with individual pay increase assumptions, are shown in Schedule 2 on the next page of this report. Adopted withdrawal 2014 and disability/pay increase 2010.

5. The active member population is closed to new hires. This will result in a gradual reduction in the total active member payroll over time.

6. An individual entry age actuarial cost method of valuation was used in determining age and service and deferred retirement actuarial liabilities and normal cost. Adopted 1975. Unfunded actuarial accrued liabilities are financed over a declining 40-year period beginning October 1, 1996. Adopted 1996.

7. The Department of Technology, Management & Budget approved the use of fair value of assets as of September 30, 2006, for valuation purposes. For investment gains and losses that occur after that date, a 5-year smoothing technique will be used. Specifically, the excess (shortfall) of actual investment income (including interest, dividends, realized and unrealized gains or losses) over the imputed-income at the valuation interest rate is considered the gain (loss), which is spread over five years. Adopted 2007.

8. 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.

9. The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA). The assumptions used in the actuarial valuations were adopted by the System's Board and the Department of Technology, Management & Budget after consulting with the actuary.

10. A 5-year experience investigation, covering the period from October 1, 2007, through September 30, 2012, was completed in 2014. The purpose of the study was to analyze the actual experience of the System versus that anticipated by actuarial assumptions then in use. Adopted 2014.

11. Gabriel Roeder Smith and Co. was awarded the actuarial and consulting services contract beginning October 4, 2006.

Summary of Actuarial Assumptions & Methods (continued)

SCHEDULE 1

Percent of Eligible Active Members Retiring Within Next Year

Retirement Ages	Correction Officers	Conservaton Officers	OtherMembers
45		28 %	
48		28	
51	27 %	28	
55	16	28	15 %
58	12	28	10
61	18	28	13
64	22	40	16
67	30	50	21
70	100	100	50
75	100	100	100

SCHEDULE 2

Separation From Active Employment Before Age & Service Retirement & Individual Pay Increase Assumptions

Sample Ages	Years of Service	Percent of Active Members Withdrawing Within Next Year (Men and Women)	Percent of Active Members Becoming Disabled Within Next Year: Non-Duty Disabilities	Percent of Active Members Becoming Disabled Within Next Year: Duty Disabilities	Percent Increase in Pay During Next Year
All	0	12.00 %			
	1	8.50			
	2	6.50			
	3	5.00			
	4	4.00			
25	5 & Over	3.50	.03 %	0.00 %	9.5 %
35	"	2.38	.10	0.01	4.7
45	"	1.84	.34	0.04	4.0
55	"	1.60	.92	0.08	3.9
60	"	1.60	2.10	0.11	3.5

Actuarial Valuation Data

Schedule of
Active Member Pension Valuation Data

Valuation Date Sept. 30	Number	Reported Annual Payroll*	Average Annual Pay	Increase (Decrease)	Average Age	Average Service
2006	32,575	$ 1,847,653	$ 56,720	1.9 %	50.1	21.0
2007	30,864	1,825,889	59,159	4.3	50.8	21.8
2008	28,568	1,763,672	61,736	4.4	51.4	22.7
2009	27,455	1,734,325	63,170	2.3	52.1	23.5
2010	25,478	1,621,709	63,651	0.8	52.6	24.1
2011	19,650	1,276,058	64,939	2.0	51.9	23.3
2012 [1]	17,860	1,551,591	64,703	(0.4)	52.5	24.2
2013	16,466	1,081,729	65,695	1.5	53.2	25.0
2014	14,985	1,010,987	67,467	2.7	53.7	25.8
2015	13,404	922,093	68,792	2.0	54.2	26.5

[1] Excludes 516 individuals who became active members of Defined Contribution Plan during the 2011-2012 plan year

* In thousands of dollars

Schedule of
Active Member OPEB Valuation Data

Valuation Date Sept. 30	Number	Reported Annual Payroll*	Average Annual Pay	Increase (Decrease)	Average Age	Average Service
2012	50,609	$ 2,895	$ 57,207		45.4	13.3
2013	50,419	2,881	57,144	(0.11) %	45.5	13.4
2014	49,744	2,857	57,441	0.52	45.5	13.4
2015	49,020	3,029	61,784	7.56	45.5	13.3

* In millions of dollars.

Schedule of Changes in the Retirement Rolls

Year Ended Sept. 30	Added to Rolls No.	Added to Rolls Annual Allowances*	Removed from Rolls No.	Removed from Rolls Annual Allowances*	Rolls - End of Year No.	Rolls - End of Year Annual Allowances*	% Increase in Annual Allowances	Average Annual Allowances
2006	1,728	$ 41,794	1,549	$ 20,126	45,980	$ 769,096	2.9 %	$ 16,727
2007	2,206	52,687	1,300	19,765	46,886	802,018	4.3	17,106
2008	2,653	63,219	1,461	22,625	48,078	842,612	5.1	17,526
2009	2,423	61,683	1,472	23,531	49,029	880,763	4.5	17,964
2010	2,937	78,647	1,504	23,518	50,462	934,092	6.1	18,511
2011	6,656	205,413	1,470	25,542	55,648	1,113,963	19.3	20,018
2012	2,186	59,238	1,546	29,801	56,288	1,143,400	2.6	20,313
2013	2,181	63,061	1,615	31,132	56,854	1,175,329	2.8	20,673
2014	2,421	69,805	1,660	32,801	57,615	1,212,333	3.1	21,042
2015	2,490	76,224	1,652	33,955	58,453	1,254,602	3.5	21,463

* In thousands of dollars.

Schedule of Changes in the OPEB Rolls

Year Ended Sept. 30	Added to Rolls No.	Added to Rolls Annual Allowances*	Removed from Rolls No.	Removed from Rolls Annual Allowances*	Rolls - End of Year No.	Rolls - End of Year Annual Allowances*	Increase in Annual Allowances	Average Annual Allowances
2011					50,194	$ 476,201		
2012	1,915	$ 22,870	1,530	$ 27,052	45,491	472,019	(0.9) %	$ 9,332
2013	1,852	20,413	1,630	46,270	50,801	446,162	(5.5)	8,783
2014	2,052	22,366	1,643	25,398	51,210	443,130	(0.7)	8,653
2015	2,168	24,216	1,630	24,904	51,748	442,442	(0.2)	8,550

* In thousands of dollars.

Notes:

No. refers to number of retiree health contracts

Annual allowances added to rolls includes increases due to medical inflation and contract changes.

Annual allowances removed from rolls includes decreases due to contract changes.

Prioritized Solvency Test

The System's 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 solvency test.

A prioritized solvency test is another means of checking a system's progress under its funding program. In a short condition test, the plan's present assets (cash and investments) are compared with: (1) active member contributions on deposit; (2) the liabilities for future benefits to present retired lives; and (3) the liabilities for service already rendered by active and inactive members. In a system that has been following the discipline of level percent of payroll financing, the liabilities for active member contributions on deposit (liability 1) and the liabilities for future benefits to present retired lives (liability 2) will be fully covered by present assets (except in rare circumstances). In addition, the liabilities for service already rendered by active members (liability 3) are normally partially covered by the remainder of present assets. Generally, if the System has been using level-cost financing, the funded portion of liability 3 will increase over time. Liability 3 being fully funded is not necessarily a by-product of level percent of payroll funding methods.

The schedules that follow illustrate the history of the liabilities of the System and are indicative of the System's policy of following the discipline of level percent of payroll financing.

Pension Benefits
($ in millions)

	Actuarial Accrued Liability (AAL)							
	(1)	(2)	(3)					
Valuation Date Sept. 30	Active Member Contributions	Retirants and Beneficiaries	Active and Inactive Members (Employer Financed Portion)	Valuation Assets	Portion of AAL Covered by Assets (1)	(2)	(3)	(4) [1]
2006	$ 107	$ 7,607	$ 5,085	$ 10,111	100 %	100 %	47.1 %	79.0 %
2006 [1]	107	7,607	5,085	10,890	100	100	62.5	85.1
2007	116	7,847	5,199	11,344	100	100	65.0	86.2
2008	119	8,361	5,286	11,403	100	100	55.3	82.8
2009	127	8,681	5,426	11,107	100	100	42.4	78.0
2010	138	9,151	5,239	10,782	100	100	28.5	74.2
2010 [2]	138	9,265	5,457	10,782	100	100	25.3	72.6
2011	93	11,197	4,307	10,212	100	90.4	0.0	65.5
2012	121	11,392	4,141	9,447	100	81.9	0.0	60.3
2013	162	11,612	3,874	9,438	100	79.9	0.0	60.3
2014	195	11,869	3,707	9,962	100	82.3	0.0	63.2
2014 [2]	195	12,149	3,829	9,962	100	80.4	0.0	61.6
2015	220	12,483	3,534	10,417	100	81.7	0.0	64.2

[1] Revised asset valuation method.

[2] Revised actuarial assumptions.

Prioritized Solvency Test (Continued)

Other Postemployment Benefits
($ in millions)

	Actuarial Accrued Liability (AAL)				Portion of AAL Covered by Assets			
	(1)	(2)	(3)					
Valuation Date Sept. 30	Active Member Contributions	Retirants and Beneficiaries	Active and Inactive Members (Employer Financed Portion)	Valuation Assets	(1)	(2)	(3)	(4)[1]
2007		$ 6,389	$ 6,576		0.0 %	0.0 %	0.0 %	0.0 %
2008		6,759	6,783		0.0	0.0	0.0	0.0
2009		6,425	6,193		0.0	0.0	0.0	0.0
2010		7,655	7,011		0.0	0.0	0.0	0.0
2011		8,418	5,833		0.0	0.0	0.0	0.0
2012[2]		5,633	3,124	$ 344	0.0	6.1	0.0	3.9
2013		5,335	2,864	663	0.0	12.4	0.0	8.1
2014[2]		5,792	2,957	1,058	0.0	18.3	0.0	12.1
2015		6,047	2,951	1,302	0.0	21.5	0.0	14.5

[1] Percents funded on a total valuation asset and total actuarial accrued liability basis.
[2] Revised actuarial assumptions and/or methods.

Analysis of System Experience

ANALYSIS OF SYSTEM EXPERIENCE - PENSION
Gains/(Losses) in Accrued Liabilities During Year Ended September 30, 2015
Resulting from Differences Between Assumed Experience & Actual Experience

	Type of Activity	Gain/(Loss)
1.	**Retirements (including Disability Retirement).** If members retire at older ages or with lower final average pay than assumed, there is a gain. If younger ages or higher average pays, a loss.	$ (31,329,281)
2.	**Withdrawal From Employment** (including death-in-service). If more liabilities are released by withdrawals and deaths than assumed, there is a gain. If smaller releases, a loss.	(1,304,578)
3.	**Pay Increases.** If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	39,606,596
4.	**Investment Income.** If there is greater investment income than assumed, there is a gain. If less income, a loss.	145,959,597
5.	**Death After Retirement**. If retirants live longer than assumed, there is a loss. If not as long, a gain.	3,402,783
6.	**Rehires. Rehires** into the System will generally result in an actuarial loss.	(9,946,642)
7.	**Other.** Miscellaneous gains and losses resulting from data adjustments, timing of financial transactions, etc.	(3,615,321)
8.	**Composite Gain (or Loss) During Year**	$ 142,773,154

ANALYSIS OF SYSTEM EXPERIENCE - OPEB
Gains/(Losses) in Accrued Liabilities During the Year Ended September 30, 2015
Resulting from Differences Between Assumed and Actual Experience

	Type of Activity	Gain/(Loss)
1.	**Premiums.** Gains and losses from actual premiums in valuation year versus that assumed from prior valuation.	$ 308,375,929
2.	**Investment Income.** If there is greater investment income than assumed, there is a gain. If less income, a loss	(76,024,968)
3.	**Demographic and Other.** Gain and losses resulting from demogrpahic experience datqa adjustments, timing of financial transactions, etc.	48,654,205
4.	**Composite Gain/(Loss) During Year.**	$ 281,005,166

Summary of Plan Provisions

Our actuarial valuation of the System as of September 30, 2015, is based on the present provisions of the Michigan State Employees' Retirement Act (Public Act 240 of 1943, as amended).

REGULAR RETIREMENT (NO REDUCTION FACTOR FOR AGE)

Eligibility – Age 55 with 30 years service, or age 60 with 10 or more years of service. Corrections Officers may retire at age 51 with 25 or more years of service, or age 56 with 10 or more years of service. Conservation Officers may retire after 25 years of service regardless of age.

Annual Amount – Total service times 1.5% of FAC. For members with 20 or more years of service, a $3,000 minimum annual benefit is payable. Corrections Officers receive an additional temporary supplement to age 62 equal to the product of supplemental service times 0.5% of FAC. Conservation Officers retiring after 25 years receive a benefit equal to 60% of FAC.

EARLY RETIREMENT (AGE REDUCTION FACTOR USED)

Eligibility – Age 55 with 15 or more years of service.

Annual Amount – Computed as regular retirement benefit but reduced by 0.5% for each month under age 60.

DEFERRED RETIREMENT (VESTED BENEFIT)

Eligibility – 10 years of service (five years for unclassified persons in the executive or legislative branch). Benefit commences at age 60

Annual Amount – Regular retirement benefit based on service and final average compensation at time of termination.

DUTY DISABILITY RETIREMENT

Eligibility – No age or service requirement.

Annual Amount – Disability age 60+: Computed as regular retirement benefit with minimum benefit based on 10 years service. Disability prior to age 60: To age 60, benefit is computed as a regular retirement benefit using service at the time of disability retirement with a minimum benefit of $6,000 per year. Additional limitation such that benefit plus workers' compensation does not exceed final compensation. At age 60, benefit is recomputed as a regular retirement benefit with service granted for period in receipt of disability benefit before age 60. If the member dies before age 60, benefits are payable to a surviving spouse computed as a regular retirement benefit but based on service at time of disability retirement plus elapsed time between date of retirement and age 60.

NON DUTY DISABILITY RETIREMENT

Eligibility – 10 years of service.

Annual Amount – Computed as regular retirement benefit based on service and FAC at time of disability. Minimum annual benefit is $600. Eligible Group 2 and Group 3 members may elect this benefit (in lieu of PA 264 benefits).

Summary of Plan Provisions (Continued)

DUTY DEATH BEFORE RETIREMENT

Eligibility – No age or service requirement.

Annual Amount – Accumulated employee contributions are refunded. Surviving spouse receives annual benefit computed as a regular retirement benefit as if the deceased member retired the day before date of death and elected Option A. Benefit is based on member's service at time of death, or 10 years of service, whichever is greater. A minimum benefit of $6,000 per year is payable. Children under age 21 each receive equal share of one-half of the benefit payable (surviving spouse receives the other half), to a maximum of one-half for all children. A given child's share of benefits terminates upon the child's marriage, death or attainment of age 21. In the event that there is no surviving spouse, the benefit is allocated equally among all children subject to the limitations described above. In the event that there is no surviving spouse or eligible children, benefits may be paid to an eligible, dependent parent. Benefits end upon the marriage or death of the surviving parent. Additional limitation such that benefit plus workers' compensation does not exceed final compensation.

NON DUTY DEATH BEFORE RETIREMENT

Eligibility - 10 years of service. In the case of a deceased vested former member, the survivor benefit commences when the deceased former member would have attained age 60.

Annual Amount - Computed as regular retirement benefit but reduced in accordance with a 100% joint and survivor election.

POST RETIREMENT COST-OF-LIVING ADJUSTMENTS

One-time upward adjustments have been made in 1972, 1974, 1976, 1977 and 1987. Beginning in 1983, some benefit recipients share in a distribution of a portion of investment income earned in excess of 8% annually (supplemental payment). Beginning in 1988, all benefit recipients are eligible for automatic 3% annual (non-compounded) benefit increases, with a maximum $300 annual increase. Eligibility for the above benefits:

Retired before October 1, 1987 Greater of supplemental payment or the combination of the 1987 one-time adjustment and the automatic increases.

Retired on or after October 1, 1987 Automatic increases only.

POST RETIREMENT HEALTHCARE BENEFITS

Persons in receipt of retirement allowance (including members who did not retire directly from the System, but come from a vested deferred status), and their dependents, are eligible for 90% System paid health insurance coverage and 90% System paid dental and vision insurance

MEMBER CONTRIBUTIONS

Group 1 Members: 4% of annual pay effective April 1, 2012.

Group 2 Members: 4% of annual pay effective April 1, 2012 until the date of transfer to DC pension plan.

Group 3 Members: N/A

Summary of Plan Provisions (Continued)

DEFINED CONTRIBUTION LEGISLATION (PUBLIC ACT 487 OF 1996)

New state employees hired on or after March 31, 1997 become participants in Tier 2 (*i.e.*, a defined contribution plan) rather than Tier 1 (*i.e.*, the above described defined benefit plan).

Active members on March 30, 1997 could irrevocably elect to terminate membership in Tier 1 and become participants in Tier 2. Elections had to be in writing and submitted between January 2, 1998 and April 30, 1998. Such members became Tier 2 participants on June 1, 1998, and had the actuarial present value of their Tier 1 accrued benefit transferred into Tier 2 by September 30, 1998.

A defined benefit disability pension or death-in-service pension may be payable if a Tier 2 participant becomes disabled or dies in service.

Former Tier 1 Members

A former non-vested member who is reemployed on or after January 1, 2014 is not eligible for membership in Tier 1. This type of member shall become a qualified participant in Tier 2, and shall be treated as being first employed by the State as of his or her date of reemployment.

STATISTICAL SECTION

STATISTICAL SECTION

This part of the System's comprehensive annual financial report presents detailed information as a context for understanding what the information in the financial statements, note disclosures, and required supplementary information says about the System's overall financial health.

Contents

Financial Trends

These schedules contain trend information to help the reader understand how the System's financial performance and fiscal health has changed over time. The schedules are presented for the last ten fiscal years. Schedules included are:

- Schedule of Pension Plan Additions by Source
- Schedule of OPEB Plan Additions by Source
- Schedule of Pension Plan Deductions by Type
- Schedule of OPEB Plan Deductions by Type
- Schedule of Changes in Fiduciary Net Position – Pension Plan
- Schedule of Changes in Fiduciary Net Position – OPEB Plan
- Schedule of Pension Benefit and Refunds by Type
- Schedule of OPEB Benefits and Refunds by Type

Operating Information

These schedules contain contextual information to assist the reader's understanding of how the System's financial information relates to the combination of participating members and the benefits it provides. Schedules are presented for the last ten fiscal years, except where noted. Schedules included are:

- Schedule of Retired Members by Type of Pension Benefit
- Schedule of Retired Members by Type of Other Postemployment Benefits
- Schedule of Funding Progress – Pension Plan
- Schedule of Other Postemployment Benefits
- Schedule of Average Benefit Payments – Pension
- Schedule of Average Benefit Payments – Health
- Schedule of Average Benefit Payments – Dental
- Schedule of Average Benefit Payments – Vision
- Ten Year History of Membership

Schedules of Additions by Source

Schedule of Pension Plan Additions by Source

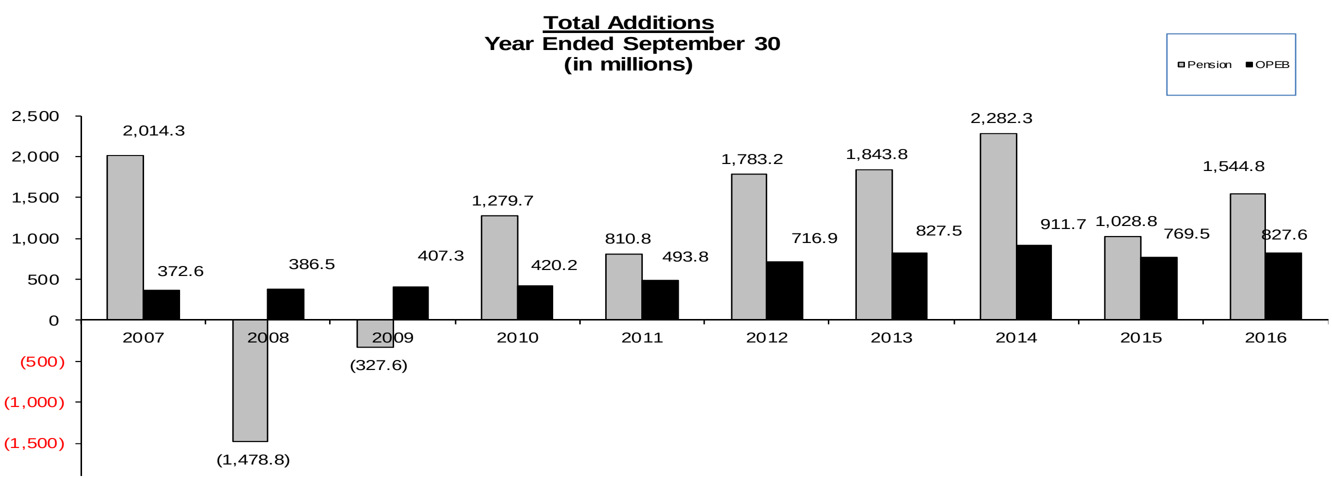
Last Ten Years

Fiscal Year Ended Sept. 30	Member Contributions	Employer Contributions Dollars	Employer Contributions % of Annual Covered Payroll	Net Investment & Other Income	Total
2007	$ 19,696,132	$ 150,858,506	8.3%	$ 1,843,763,625	$ 2,014,318,263
2008	5,643,805	355,732,115	20.2	(1,840,212,839)	(1,478,836,919)
2009	6,994,975	343,787,486	19.8	(678,361,614)	(327,579,153)
2010	26,055,668	369,952,868	22.8	883,696,454	1,279,704,990
2011	25,830,556	424,546,805	32.1	360,432,214	810,809,575
2012	33,290,784	419,926,997	36.3	1,330,021,741	1,783,239,522
2013	53,035,321	604,845,495	55.9	1,185,983,179	1,843,863,995
2014	47,527,233	705,100,454	70.0	1,529,625,882	2,282,253,569
2015	46,689,032	749,487,469	81.3	232,642,604	1,028,819,105
2016	46,665,882	716,464,627	NA	781,651,240	1,544,781,748

Schedule of OPEB Plan Additions by Source

Last Ten Years

Fiscal Year Ended Sept. 30	Member Contributions	Employer Contributions Dollars	Employer Contributions % of Annual Covered Payroll	Net Investment & Other Income	Total
2007	$ 11,760,544	$ 359,375,055	19.4%	$ 1,500,072	$ 372,635,671
2008	13,099,796	342,186,903	19.4	31,242,590	386,529,289
2009	20,982,595	362,419,285	20.9	23,861,475	407,263,355
2010	20,905,488	360,125,502	12.3	39,150,651	420,181,641
2011	27,647,644	388,196,118	30.4	77,916,883	493,760,645
2012	27,431,916	648,881,078	22.4	40,613,600	716,926,616
2013	43,590,023	688,348,987	23.9	95,530,670	827,469,704
2014	40,441,402	700,938,446	24.5	170,312,487	911,692,334
2015	37,687,750	664,368,713	21.9	67,437,137	769,493,622
2016	38,661,386	617,662,359	NA	171,309,486	827,633,231



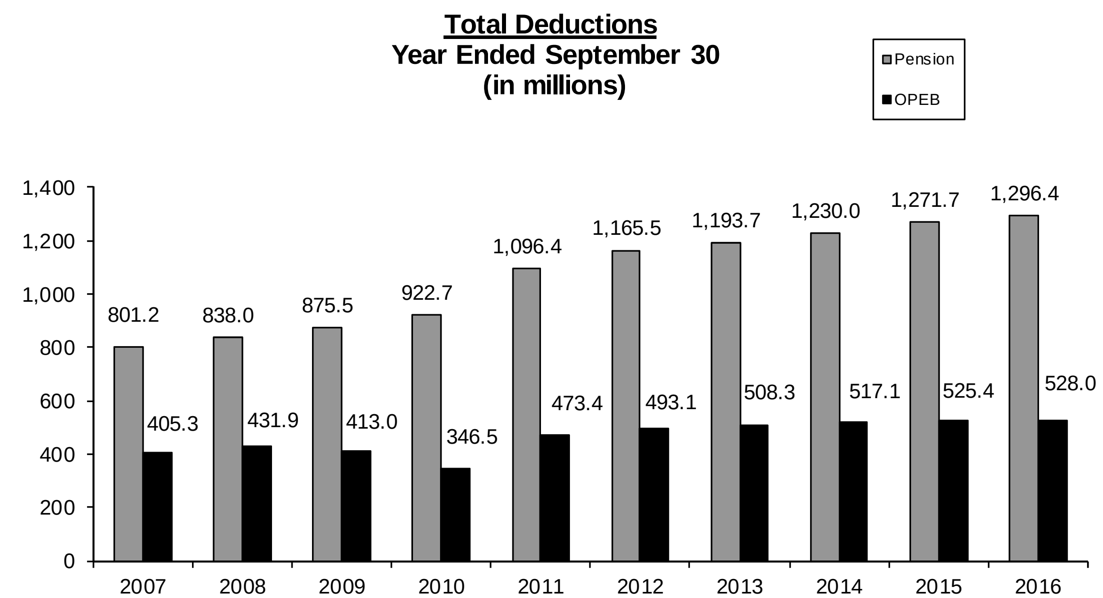
Schedules of Deductions by Type

Schedule of Pension Plan Deductions by Type
Last Ten Years

Fiscal Year Ended Sept. 30	Benefit Payments	Refunds and Transfers	Administrative and Other Expenses	Total
2007	$ 795,842,013	$ 229,600	$ 5,115,226	$ 801,186,839
2008	832,553,176	373,916	5,048,737	837,975,829
2009	870,278,863	366,039	4,865,232	875,510,134
2010	917,328,820	315,367	5,073,446	922,717,633
2011	1,089,822,880	474,986	6,079,017	1,096,376,883
2012	1,156,035,451	188,926	9,253,880	1,165,478,257
2013	1,187,911,357	114,053	5,658,318	1,193,683,728
2014	1,222,881,091	151,929	6,930,656	1,229,963,676
2015	1,265,335,477	144,115	6,227,748	1,271,707,340
2016	1,289,597,875	130,258	6,628,719	1,296,356,853

Schedule of OPEB Plan Deductions by Type
Last Ten Years

Fiscal Year Ended Sept. 30	Benefit Payments	Refunds and Transfers	Administrative and Other Expenses	Total
2007	$ 363,975,051	$ 41,304,031		$ 405,279,082
2008	377,513,873	35,001,063	$ 19,393,665	431,908,601
2009	392,135,386	2,431	20,896,664	413,034,481
2010	330,512,704	10,741	15,955,963	346,479,408
2011	456,878,993	21,085	16,536,168	473,436,246
2012	476,508,499	16,904	16,618,156	493,143,559
2013	485,707,110	14,735	22,603,899	508,325,744
2014	491,569,369	22,624	25,536,117	517,128,110
2015	500,629,557	17,402	24,754,938	525,401,896
2016	502,316,967	39,053	25,605,860	527,961,880



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Schedules of Changes in Fiduciary Net Position

Schedule Of Changes In Fiduciary Net Position – Pension Plan

Last Ten Years (in thousands)

	Fiscal Year			
	2007	2008	2009	2010
Member contributions	$ 19,696	$ 5,644	$ 6,995	$ 26,056
Employer contributions	150,858	355,732	343,787	369,953
Net investment income	1,801,588	(1,840,587)	(678,588)	883,511
Transfer from other systems	106	190	93	50
Transfer from pension/OPEB Plan	41,304			
Miscellaneous income	766	184	133	135
Total Additions	2,014,318	(1,478,837)	(327,579)	1,279,705
Pension benefits	795,842	832,553	870,279	917,329
Refunds of contributions	222	291	316	299
Transfer to other systems	8	83	50	17
Transfer to pension/OPEB Plan				
Administrative and Other Expenses	5,115	5,049	4,865	5,073
Total Deductions	801,187	837,976	875,510	922,718
Changes in net position	$ 1,213,131	$ (2,316,813)	$ (1,203,089)	$ 356,987

Schedule Of Changes In Fiduciary Net Position – OPEB Plan

Last Ten Years (in thousands)

	Fiscal Year			
	2007	2008	2009	2010
Member contributions	$ 11,761	$ 13,100	$ 20,983	$ 20,905
Employer contributions	359,375	342,187	362,419	360,126
Other govermental contributions		23,004	21,987	27,058
Net investment income	1,500	657	1,359	11,815
Transfer from other systems		6,884		
Transfer from pension/OPEB Plan				
Miscellaneous income		698	516	278
Total Additions	372,636	386,530	407,263	420,182
Health care benefits	363,975	377,513	392,135	330,513
Refunds of contributions		2	2	11
Transfer to other systems		35,000		
Transfer to pension/OPEB Plan	41,304			
Administrative and Other Expenses		19,394	20,897	15,956
Total Deductions	405,279	431,909	413,034	346,479
Changes in net position	$ (32,643)	$ (45,379)	$ (5,771)	$ 73,702

Fiscal Year (continued)					
2011	2012	2013	2014	2015	2016
$ 25,831	$ 33,291	$ 53,035	$ 47,527	$ 46,688	$ 46,666
424,547	419,927	604,845	705,100	749,487	716,465
360,284	1,329,925	1,185,726	1,529,583	232,588	781,528
2		1		1	3
146	96	256	43	54	120
810,810	1,783,240	1,843,864	2,282,253	1,028,819	1,544,782
1,089,823	1,156,035	1,187,911	1,222,881	1,265,335	1,289,598
470	189	105	152	144	130
5		9			
6,079	9,254	5,658	6,931	6,228	6,629
1,096,377	1,165,478	1,193,684	1,229,964	1,271,707	1,296,357
$ (285,567)	$ 617,762	$ 650,180	$ 1,052,290	$ (242,888)	$ 248,425

Fiscal Year (Continued)					
2011	2012	2013	2014	2015	2016
$ 27,648	$ 27,432	$ 43,590	$ 40,441	$ 37,688	$ 38,661
388,196	648,881	688,349	700,938	664,369	617,662
64,773	23,774	41,514	54,945	49,292	68,990
12,851	16,592	53,592	115,308	18,034	102,120
293	248	425	60	111	199
493,761	716,927	827,470	911,692	769,494	827,633
362,598	476,508	485,707	491,569	500,630	502,317
	17	15	23	17	39
	16,618	22,604	25,536	24,755	25,606
362,598	493,144	508,326	517,128	525,402	527,962
$ 131,163	$ 223,783	$ 319,144	$ 394,564	$ 244,092	$ 299,671

Schedules of Benefits and Refunds by Type

Schedule of Pension Benefits and Refunds by Type
Last Ten Years

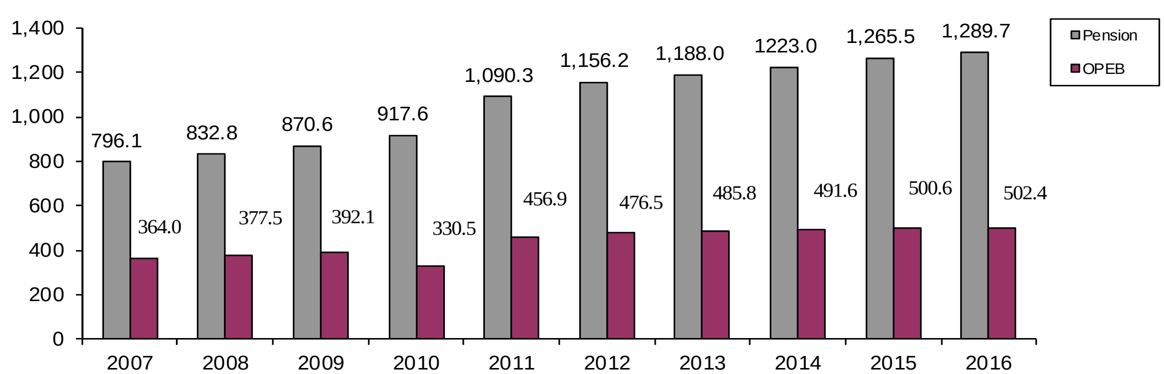
Fiscal Year Ended Sept. 30	Regular Benefits*	Disability Benefits	Survivor Benefits	Refunds Employer	Refunds Employee	Refunds Retired Benefits	Investment Income	Total
2007	$ 688,989,246	$38,666,660	$68,186,107	$ 42,892	$ 178,316	$ 831		$ 796,064,052
2008	720,224,862	39,877,844	72,450,470	69,741	219,335	1,702		832,843,954
2009	752,155,935	40,876,663	77,246,265	177,079	133,294	5,618		870,594,854
2010	793,100,996	42,118,014	82,109,810	12,698	280,046	6,119		917,627,683
2011	960,389,210	42,816,787	86,616,883	44,655	417,337	8,411		1,090,293,283
2012	1,020,591,855	44,263,358	91,180,238	54,635	111,837	20,419	$ 2,035	1,156,224,377
2013	1,046,440,379	44,960,182	96,510,796	46,830	47,317	11,111		1,188,016,615
2014	1,075,606,289	46,058,694	101,216,109	77,348	75,536	(955)		1,223,033,020
2015	1,113,035,295	46,634,211	105,665,971	91,170	50,383	2,562		1,265,479,592
2016	1,132,833,858	46,774,427	109,989,590	84,564	23,706	2,164	19,824	1,289,728,133

*Includes prior post retirement adjustments

Schedule of OPEB Benefits and Refunds by Type
Last Ten Years

Fiscal Year Ended Sept. 30	Health Benefits	Dental Benefits	Vision Benefits	Personal Health Care	Health Reimbursement Account	OPEB Refunds	Total
2007	$ 329,714,449	$29,750,672	$ 4,509,930				$363,975,051
2008	345,286,591	29,046,230	3,181,052			$ 295	377,514,168
2009	358,691,332	30,140,662	3,303,392			2,431	392,137,817
2010	295,928,047	31,532,621	3,052,036			10,741	330,523,445
2011	417,417,811	35,820,611	3,640,571			21,085	456,900,078
2012	433,878,978	37,327,504	3,961,792	$1,340,225		16,904	476,525,403
2013	440,197,204	37,726,459	3,377,956	4,433,182	$ 10,126	14,735	485,759,661
2014	446,022,465	38,154,766	3,466,375	3,907,862	17,902	22,624	491,591,993
2015	453,617,812	38,919,834	3,163,993	4,893,957	33,959	17,401	500,646,957
2016	455,156,486	39,769,337	3,191,534	4,151,445	48,211	39,054	502,356,067

Total Benefit Deductions
Year Ended September 30
(in millions)



Schedules of Retired Members by Type of Benefit

Schedule of Retired Members by Type of Pension Benefits
September 30, 2015

Monthly Pension Benefit Amt	Number of Retirees	Selected Option**							
		Reg.	Opt. A	Opt. B	Opt. C	Opt. E	Opt. E1	Opt. E2	Opt. E3
$ 1 - 200	368	130	100	98	5	26	4	5	-
201 - 400	1,929	782	528	397	48	102	36	34	2
401 - 600	3,500	1,418	1,012	592	85	210	66	109	8
601 - 800	4,507	1,923	1,175	692	116	331	103	160	7
801 - 1000	4,466	1,613	1,134	771	124	519	100	188	17
1001 - 1200	4,312	1,718	1,165	634	132	370	85	180	28
1201 - 1400	4,249	1,804	1,207	598	165	280	70	107	18
1401 - 1600	4,416	1,944	1,343	631	176	180	66	63	13
1601 - 1800	4,415	1,823	1,409	745	216	117	60	33	12
1801 - 2000	4,181	1,736	1,249	719	285	86	58	33	15
over 2000	22,110	8,919	6,179	3,862	1,642	742	292	343	131
Totals	**58,453**	**23,810**	**16,501**	**9,739**	**2,994**	**2,963**	**940**	**1,255**	**251**

Source: Gabriel Roeder Smith & Co.

**Selected Option

Reg. - Straight life allowance
Opt. A - 100% survivor option
Opt. B - 50% survivor option
Opt. C - 75% survivor option
Opt. E - Social Security equated
Opt. E1 - Social Security equated w/100% survivor option
Opt. E2 - Social Security equated w/50% survivor option
Opt. E3 - Social Security equated w/75% survivor option

Schedule of Retired Members by Type of Other Postemployment Benefits
September 30, 2015

Amount of Monthly Pension Benefit	Number of Retirees	Type of Other Postemployment Benefits		
		Health	Dental	Vision
$ 1 - 200	368	161	171	172
201 - 400	1,929	1,078	1,116	1,106
401 - 600	3,500	2,344	2,412	2,420
601 - 800	4,507	3,494	3,572	3,542
801 - 1,000	4,466	3,700	3,747	3,740
1,001 - 1,200	4,312	3,716	3,779	3,771
1,201 - 1,400	4,249	3,759	3,785	3,785
1,401 - 1,600	4,416	3,991	4,028	4,027
1,601 - 1,800	4,415	4,048	4,084	4,078
1,801 - 2,000	4,181	3,839	3,890	3,878
Over 2,000	22,110	20,368	20,685	20,626
Totals	58,453	50,498	51,269	51,145

Source: Gabriel Roeder Smith & Co.

Schedules of Retired Members by Type of Benefit

Schedule of Retired Members by Type of Retirement
September 30, 2015

Monthly Pension Benefit Amt	Number of Retirees	Type of Retirement 1	2	3	4	5	6	7	8
$ 1 - 200	368	243	85	6	24	0	6	1	3
201 - 400	1,929	1,327	305	12	182	2	42	3	56
401 - 600	3,500	2,235	518	20	437	0	123	8	159
601 - 800	4,507	2,557	588	146	692	16	212	31	265
801 - 1000	4,466	2,719	606	5	605	0	193	81	257
1001 - 1200	4,312	2,672	443	17	587	2	198	151	242
1201 - 1400	4,249	2,627	365	17	588	0	194	252	206
1401 - 1600	4,416	2,914	415	10	424	1	169	346	137
1601 - 1800	4,415	3,173	355	12	252	1	116	417	89
1801 - 2000	4,181	3,180	249	9	147	0	92	455	49
over 2000	22,110	17,588	687	6	159	0	190	3,388	92
Totals	**58,453**	**41,235**	**4,616**	**260**	**4,097**	**22**	**1,535**	**5,133**	**1,555**

* Type of Retirement

1 - Normal retirement for age & service
2 - Survivor payment - normal or early retirement
3 - Duty disability retirement (incl. survivors)
4 - Non-duty disability retirement (incl. survivors)
5 - Survivor payment - duty death in service
6 - Survivor payment - non-duty death in service
7 - Retirees with supplemental benefits for early retirement incentive factors
8 - Retirees with reduced benefits for early retirement reduction factors

Source: Gabriel Roeder Smith & Co.

Schedule of Funding Progress – Pension Plan

Schedule of Funding Progress - Pension Plan

Last Ten Years
Pension Benefits ($ in millions)

Valuation Date Sept 30	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded (Overfunded) Accrued Liability (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
2006	$ 10,111	$ 12,799	$ 2,688	79.0 %	$ 1,848	145.5 %
2006[2]	10,890	12,799	1,909	85.1	1,848	103.3
2007	11,344	13,162	1,818	86.2	1,826	99.6
2008	11,403	13,766	2,363	82.8	1,764	134.0
2009	11,107	14,234	3,127	78.0	1,734	180.3
2010[1]	10,782	14,860	4,078	72.6	1,622	251.5
2011	10,212	15,597	5,385	65.5	1,276	422.0
2012	9,447	15,654	6,207	60.3	1,156	537.1
2013	9,438	15,648	6,210	60.3	1,082	574.1
2014	9,962	15,771	5,809	63.2	1,011	574.6
2014[1]	9,962	16,173	6,211	61.6	1,011	614.4
2015	10,417	16,237	5,821	64.2	922	631.3

[1] Revised actuarial assumptions
[2] Revised asset valuation method

Source: Gabriel Roeder Smith & Co.

Schedule of Other Postemployment Benefits

Schedule of Other Postemployment Benefits
For Year Ended September 30, 2016

Claims	
Health insurance	$ 436,018,120
Vision insurance	38,996,310
Dental insurance	3,046,235
Total Claims	478,060,665
Estimated Claims Liability	
Health insurance	19,138,320
Vision insurance	145,299
Dental insurance	773,027
Total Estimated Claims Liability	20,056,645
Administrative Fees	
Staff Salaries	376,704
Health insurance	23,039,938
Vision insurance	280,711
Dental insurance	1,908,507
Total Administrative Fees	25,605,860
Subtotal	523,723,171
Refunds	39,053
Personal Health Care	4,151,445
Health Reimbursement Account	48,211
Grand Total	$ 527,961,881

Schedules of Average Benefit Payments

Schedule of Average Benefit Payments - Pension

Last Ten Years

Payment Periods	Credited Service (Years) as of September 30							
	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30+	Total
Period 10/1/05 to 9/30/06								
Average Monthly Benefit	$ 381	$ 432	$ 562	$ 831	$ 1,158	$ 1,673	$ 2,094	$ 1,394
Average Final Average Salary	20,190	35,841	31,723	33,730	36,861	41,827	45,468	39,123
Number of Active Retirants	221	459	6,896	7,340	7,380	10,235	13,449	45,980
Period 10/1/06 to 9/30/07								
Average Monthly Benefit	$ 410	$ 449	$ 575	$ 856	$ 1,189	$ 1,702	$ 2,133	$ 1,425
Average Final Average Salary	20,673	36,684	32,290	34,739	37,877	42,531	46,435	40,007
Number of Active Retirants	229	481	6,980	7,470	7,499	10,380	13,847	46,886
Period 10/1/07 to 9/30/08								
Average Monthly Benefit	$ 751	$ 645	$ 594	$ 888	$ 1,227	$ 1,731	$ 2,182	$ 1,460
Average Final Average Salary	25,963	38,066	33,076	35,846	39,066	43,268	47,724	40,996
Number of Active Retirants	571	640	7,054	7,550	7,553	10,428	14,282	48,078
Period 10/1/08 to 9/30/09								
Average Monthly Benefit	$ 870	$ 847	$ 624	$ 924	$ 1,268	$ 1,757	$ 2,234	$ 1,497
Average Final Average Salary	28,021	39,237	34,045	36,778	40,234	44,008	48,993	41,965
Number of Active Retirants	915	956	7,070	7,554	7,578	10,378	14,578	49,029
Period 10/1/09 to 9/30/10								
Average Monthly Benefit	$ 942	$ 940	$ 650	$ 958	$ 1,315	$ 1,788	$ 2,292	$ 1,543
Average Final Average Salary	30,076	39,552	34,746	37,805	41,761	44,946	50,437	43,123
Number of Active Retirants	1,227	1,218	7,106	7,531	7,734	10,402	15,224	50,462
Period 10/1/10 to 9/30/11								
Average Monthly Benefit	$ 987	$ 1,005	$ 670	$ 993	$ 1,373	$ 1,850	$ 2,440	$ 1,668
Average Final Average Salary	31,075	39,981	35,412	39,132	43,695	47,053	54,109	45,804
Number of Active Retirants	1,298	1,386	7,139	7,656	8,199	11,216	18,754	55,648
Period 10/1/11 to 9/30/12								
Average Monthly Benefit	$ 1,048	$ 1,079	$ 692	$ 1,027	$ 1,407	$ 1,881	$ 2,464	$ 1,693
Average Final Average Salary	31,733	41,222	36,014	40,175	44,698	48,067	54,671	46,556
Number of Active Retirants	1,539	1,592	7,155	7,655	8,279	11,311	18,757	56,288
Period 10/1/12 to 9/30/13								
Average Monthly Benefit	$ 1,055	$ 1,126	$ 707	$ 1,051	$ 1,434	$ 1,902	$ 2,489	$ 1,723
Average Final Average Salary	31,296	41,294	36,418	41,064	45,578	48,834	53,324	47,333
Number of Active Retirants	1,102	1,795	7,192	7,710	8,388	11,554	19,113	56,854
Period 10/1/13 to 9/30/14								
Average Monthly Benefit	$ 386	$ 487	$ 669	$ 1,037	$ 1,433	$ 1,908	$ 2,505	$ 1,753
Average Final Average Salary	26,402	40,117	35,776	41,152	45,886	49,336	55,821	48,120
Number of Active Retirants	112	462	7,423	7,949	8,814	12,361	20,494	57,615
Period 10/1/14 to 9/30/15								
Average Monthly Benefit	$ 383	$ 456	$ 681	$ 1,058	$ 1,455	$ 1,938	$ 2,541	$ 1,789
Average Final Average Salary	26,312	40,611	36,081	41,764	46,623	50,309	56,758	48,985
Number of Active Retirants	103	467	7,434	7,903	8,851	12,679	21,016	58,453

Source: Gabriel Roeder Smith & Co.

Schedules of Average Benefit Payments (continued)

Schedule of Average Benefit Payments - Health
Last Ten Years

Payment Periods	Credited Service (Years) as of September 30							
	0 - 5	**5 - 10**	**10 - 15**	**15 - 20**	**20 - 25**	**25 - 30**	**30+**	**Total**
Period 10/1/05 to 9/30/06								
Average Monthly Benefit	$ 337	$ 446	$ 582	$ 851	$ 1,190	$ 1,693	$ 2,127	$ 1,427
Average Final Average Salary	25,056	32,732	32,188	34,003	37,149	41,689	45,360	39,296
Number of Active Retirants	136	623	5,812	6,510	6,805	9,469	12,158	41,513
Period 10/1/06 to 9/30/07								
Average Monthly Benefit	$ 362	$ 464	$ 596	$ 879	$ 1,220	$ 1,723	$ 2,167	$ 1,462
Average Final Average Salary	25,607	33,691	32,779	35,044	38,135	42,355	46,304	40,186
Number of Active Retirants	137	625	5,833	6,568	6,892	9,574	12,491	42,120
Period 10/1/07 to 9/30/08								
Average Monthly Benefit	$ 836	$ 622	$ 618	$ 912	$ 1,258	$ 1,752	$ 2,218	$ 1,502
Average Final Average Salary	29,453	35,651	33,645	36,130	39,275	43,094	47,598	41,221
Number of Active Retirants	423	730	5,821	6,572	6,933	9,596	12,881	42,956
Period 10/1/08 to 9/30/09								
Average Monthly Benefit	$ 956	$ 822	$ 652	$ 947	$ 1,299	$ 1,779	$ 2,271	$ 1,541
Average Final Average Salary	30,647	37,602	34,597	37,020	40,435	5	48,829	42,190
Number of Active Retirants	713	1,000	5,778	6,538	6,929	9,519	13,129	43,606
Period 10/1/09 to 9/30/10								
Average Monthly Benefit	$ 1,018	$ 922	$ 682	$ 982	$ 1,344	$ 1,813	$ 2,329	$ 1,591
Average Final Average Salary	31,884	38,449	35,351	37,985	41,901	44,759	50,256	42,190
Number of Active Retirants	982	1,218	5,721	6,487	7,046	9,516	13,741	44,711
Period 10/1/10 to 9/30/11								
Average Monthly Benefit	$ 1,060	$ 995	$ 707	$ 1,017	$ 1,402	$ 1,875	$ 2,484	$ 1,721
Average Final Average Salary	32,687	39,054	36,121	39,281	43,823	46,829	53,921	46,043
Number of Active Retirants	1,057	1,358	5,678	6,542	7,454	10,241	16,843	49,171
Period 10/1/11 to 9/30/12								
Average Monthly Benefit	$ 1,120	$ 1,075	$ 731	$ 1,055	$ 1,439	$ 1,910	$ 2,512	$ 1,751
Average Final Average Salary	33,240	40,547	36,734	40,426	44,805	47,850	54,591	46,845
Number of Active Retirants	1,257	1,526	5,612	6,520	7,503	10,286	16,816	49,520
Period 10/1/12 to 9/30/13								
Average Monthly Benefit	$ 1,157	$ 1,128	$ 751	$ 1,083	$ 1,467	$ 1,934	$ 2,538	$ 1,787
Average Final Average Salary	34,086	40,640	37,226	41,330	45,600	48,606	55,128	47,648
Number of Active Retirants	861	1,694	5,525	6,481	7,544	10,467	17,053	49,625
Period 10/1/13 to 9/30/14								
Average Monthly Benefit	$ 353	$ 538	$ 707	$ 1,072	$ 1,472	$ 1,946	$ 2,563	$ 1,824
Average Final Average Salary	28,776	37,647	36,473	41,481	46,100	49,180	55,718	48,477
Number of Active Retirants	75	509	5,599	6,643	7,863	11,128	18,169	49,986
Period 10/1/14 to 9/30/15								
Average Monthly Benefit	$ 356	$ 543	$ 722	$ 1,097	$ 1,497	$ 1,980	$ 2,600	$ 1,864
Average Final Average Salary	29,236	37,933	36,778	42,156	46,822	50,187	56,622	49,372
Number of Active Retirants	69	498	5,527	6,574	7,582	11,372	18,606	50,498

Source: Gabriel Roeder Smith & Co.

Schedules of Average Benefit Payments (continued)

Schedule of Average Benefit Payments - Dental
Last Ten Years

Payment Periods	Credited Service (Years) as of September 30							
	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30+	Total
Period 10/1/05 to 9/30/06								
Average Monthly Benefit	$ 340	$ 450	$ 585	$ 856	$ 1,196	$ 1,700	$ 2,135	$ 1,435
Average Final Average Salary	25,468	33,213	32,422	34,280	37,377	41,889	45,577	39,535
Number of Active Retirants	138	620	5,810	6,457	6,754	9,444	12,199	41,422
Period 10/1/06 to 9/30/07								
Average Monthly Benefit	$ 364	$ 468	$ 598	$ 884	$ 1,225	$ 1,730	$ 2,176	$ 1,469
Average Final Average Salary	26,051	34,210	32,996	35,318	38,325	42,551	46,514	40,418
Number of Active Retirants	140	621	5,841	6,520	6,849	9,559	12,532	42,062
Period 10/1/07 to 9/30/08								
Average Monthly Benefit	$ 830	$ 627	$ 619	$ 916	$ 1,262	$ 1,758	$ 2,226	$ 1,507
Average Final Average Salary	29,547	36,106	33,801	36,371	39,459	43,267	47,776	41,414
Number of Active Retirants	425	733	5,857	6,546	6,901	9,599	12,930	42,991
Period 10/1/08 to 9/30/09								
Average Monthly Benefit	$ 958	$ 823	$ 652	$ 950	$ 1,302	$ 1,784	$ 2,277	$ 1,545
Average Final Average Salary	30,843	37,869	34,704	37,227	40,591	43,967	48,964	42,344
Number of Active Retirants	712	1,009	5,835	6,548	6,928	9,549	13,209	43,790
Period 10/1/09 to 9/30/10								
Average Monthly Benefit	$ 1,018	$ 920	$ 682	$ 984	$ 1,347	$ 1,817	$ 2,335	$ 1,593
Average Final Average Salary	31,970	38,623	35,431	38,181	42,047	44,884	50,397	43,487
Number of Active Retirants	988	1,232	5,806	6,523	7,063	9,559	13,833	45,004
Period 10/1/10 to 9/30/11								
Average Monthly Benefit	$ 1,060	$ 985	$ 706	$ 1,020	$ 1,404	$ 1,879	$ 2,488	$ 1,724
Average Final Average Salary	32,815	39,018	36,186	39,483	43,935	46,955	54,041	46,163
Number of Active Retirants	1,058	1,380	5,761	6,587	7,487	10,300	17,014	49,585
Period 10/1/11 to 9/30/12								
Average Monthly Benefit	$ 1,116	$ 1,061	$ 730	$ 1,056	$ 1,440	$ 1,912	$ 2,515	$ 1,752
Average Final Average Salary	33,242	40,446	36,738	40,577	44,914	47,929	54,697	46,926
Number of Active Retirants	1,265	1,552	5,722	6,574	7,533	10,360	17,004	50,010
Period 10/1/12 to 9/30/13								
Average Monthly Benefit	$ 1,148	$ 1,113	$ 749	$ 1,083	$ 1,469	$ 1,936	$ 2,542	$ 1,786
Average Final Average Salary	33,972	40,611	37,229	41,452	45,774	48,676	55,250	47,723
Number of Active Retirants	873	1,727	5,657	6,580	7,602	10,555	17,282	50,276
Period 10/1/13 to 9/30/14								
Average Monthly Benefit	$ 348	$ 532	$ 705	$ 1,072	$ 1,473	$ 1,947	$ 2,567	$ 1,823
Average Final Average Salary	28,959	37,747	36,488	41,585	46,202	49,257	55,836	48,546
Number of Active Retirants	81	538	5,749	6,748	7,936	11,237	18,424	50,713
Period 10/1/14 to 9/30/15								
Average Monthly Benefit	$ 350	$ 536	$ 720	$ 1,096	$ 1,497	$ 1,981	$ 2,604	$ 1,863
Average Final Average Salary	29,008	34,048	36,778	42,238	46,913	50,248	56,729	49,424
Number of Active Retirants	74	528	5,683	6,690	7,929	11,486	18,879	51,269

Source: Gabriel Roeder Smith & Co.

Schedules of Average Benefit Payments (continued)

Schedule of Average Benefit Payments - Vision

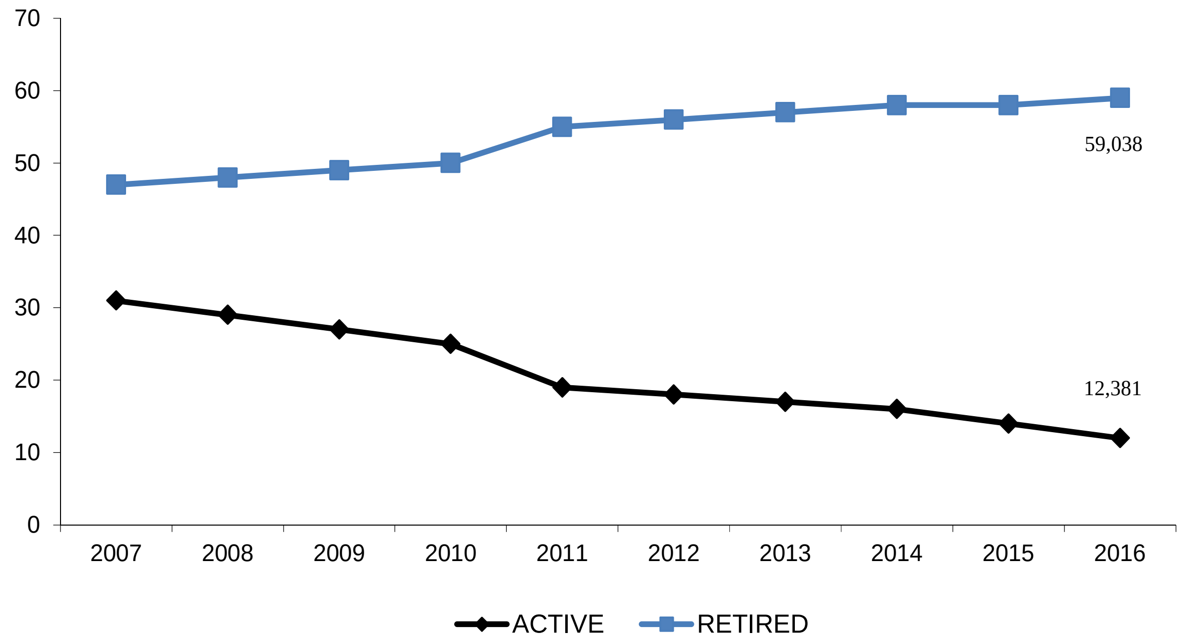
Last Ten Years

Payment Periods	Credited Service (Years) as of September 30							
	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30+	Total
Period 10/1/05 to 9/30/06								
Average Monthly Benefit	$ 340	$ 450	$ 585	$ 856	$ 1,196	$ 1,700	$ 2,135	$ 1,435
Average Final Average Salary	25,468	33,213	32,422	34,280	37,377	41,889	45,557	39,535
Number of Active Retirants	138	620	5,810	6,457	6,754	9,444	12,199	41,422
Period 10/1/06 to 9/30/07								
Average Monthly Benefit	$ 367	$ 465	$ 596	$ 882	$ 1,225	$ 1,727	$ 2,175	$ 1,467
Average Final Average Salary	26,042	34,121	32,874	35,234	38,304	42,459	46,480	40,345
Number of Active Retirants	133	626	5,870	6,553	6,865	9,596	12,533	42,176
Period 10/1/07 to 9/30/08								
Average Monthly Benefit	$ 837	$ 624	$ 617	$ 915	$ 1,262	$ 1,755	$ 2,225	$ 1,505
Average Final Average Salary	29,578	36,009	33,699	36,302	39,449	43,189	47,742	41,355
Number of Active Retirants	418	739	5,877	6,577	6,915	9,632	12,933	43,091
Period 10/1/08 to 9/30/09								
Average Monthly Benefit	$ 962	$ 820	$ 651	$ 949	$ 1,301	$ 1,782	$ 2,276	$ 1,544
Average Final Average Salary	30,904	37,745	34,664	37,158	40,563	43,908	48,936	42,298
Number of Active Retirants	705	1,012	5,844	6,572	6,944	9,578	13,207	43,862
Period 10/1/09 to 9/30/10								
Average Monthly Benefit	$ 1,002	$ 920	$ 681	$ 984	$ 1,346	$ 1,815	$ 2,334	$ 1,592
Average Final Average Salary	32,028	38,597	35,398	38,124	42,003	44,829	50,368	43,449
Number of Active Retirants	983	1,230	5,798	6,539	7,072	9,583	13,828	45,033
Period 10/1/10 to 9/30/11								
Average Monthly Benefit	$ 1,060	$ 986	$ 706	$ 1,019	$ 1,404	$ 1,878	$ 2,487	$ 1,723
Average Final Average Salary	32,787	39,015	36,150	39,380	43,901	46,904	54,014	46,119
Number of Active Retirants	1,059	1,379	5,745	6,600	7,485	10,312	16,995	49,575
Period 10/1/11 to 9/30/12								
Average Monthly Benefit	$ 1,119	$ 1,064	$ 731	$ 1,055	$ 1,439	$ 1,910	$ 2,514	$ 1,751
Average Final Average Salary	33,334	40,464	36,727	40,487	44,846	47,885	54,663	46,886
Number of Active Retirants	1,262	1,549	5,695	6,583	7,528	10,363	16,979	49,959
Period 10/1/12 to 9/30/13								
Average Monthly Benefit	$1,148	$1,116	$749	$1,082	$1,468	$1,934	$2,541	$1,786
Average Final Average Salary	33,953	40,564	37,214	41,381	45,661	48,628	55,216	47,682
Number of Active Retirants	872	1,724	5,633	6,577	7,590	10,557	17,255	50,208
Period 10/1/13 to 9/30/14								
Average Monthly Benefit	$342	$526	$705	$1,071	$1,473	$1,946	$2,566	$1,823
Average Final Average Salary	28,635	37,368	36,480	41,507	46,145	49,221	55,796	48,503
Number of Active Retirants	78	537	5,719	6,742	7,914	11,228	18,384	50,602
Period 10/1/14 to 9/30/15								
Average Monthly Benefit	$ 344	$ 531	$ 720	$ 1,095	$ 1,497	$ 1,980	$ 2,603	$ 1,863
Average Final Average Salary	29,065	37,721	36,785	42,191	46,869	50,207	56,690	49,392
Number of Active Retirants	72	529	5,647	6,678	7,905	11,476	18,838	51,145

Source: Gabriel Roeder Smith & Co.

Ten Year History of Membership (in thousands)

Fiscal Year Ended September 30



Source: Gabriel Roeder Smith & Co.

STATISTICAL SECTION

ACKNOWLEDGMENTS

The *Michigan State Employees' Retirement System Comprehensive Annual Financial Report* is prepared by Financial Services, Fiscal Management Division. Staff of the division for the fiscal year 2016 report included:

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This report may be viewed online at: www.michigan.gov/ors