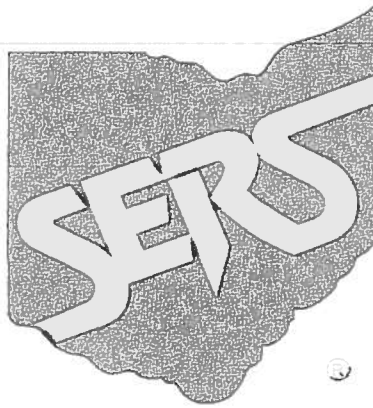




**Cavanaugh Macdonald**  
CONSULTING, LLC



**Report on the Annual Basic Benefits Valuation of the  
School Employees' Retirement System of Ohio**

**Prepared as of June 30, 2010**





# Cavanaugh Macdonald

*Senior Financial Consultants*

November 9, 2010

Board of Trustees  
School Employees Retirement System  
Of Ohio  
300 East Broad Street  
Suite 100  
Columbus, OH 43215-3746

Dear Members of the Board:

Presented in this report are the results of the annual actuarial valuation of the basic benefits provided under the School Employees Retirement System of Ohio (SERS). The purpose of the valuation was to measure the System's funding progress and to determine the required employer contribution rates for the fiscal year beginning July 1, 2010.

The date of the valuation was June 30, 2010.

The valuation was based upon data, furnished by the Executive Director and the SERS staff, concerning active, inactive and retired members along with pertinent financial information. The complete cooperation of the SERS staff in furnishing materials requested is hereby acknowledged with appreciation.

Your attention is directed particularly to the summary of results on page 1 and the comments on page 6.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

Thomas J. Cavanaugh, FSA, FCA, EA, MAAA  
Chief Executive Officer

John J. Garrett, ASA, FCA, MAAA  
Principal and Consulting Actuary

TJC/JJG:kc

S:\Ohio SERS\Pension\Valuations\2010-06-30\Reports\SERS Pension Valuation Report as of 6-30-2010.doc

3550 Busbee Pkwy, Suite 250, Kennesaw, GA 30144  
Phone (678) 388-1700 • Fax (678) 388-1730  
[www.CavMacConsulting.com](http://www.CavMacConsulting.com)

Offices in Englewood, CO • Kennesaw, GA • Omaha, NE • Hilton Head Island, SC



## TABLE OF CONTENTS

<u>Section</u>	<u>Item</u>	<u>Page No.</u>
I	Summary of Principal Results	1
II	Membership Data	3
III	Assets	5
IV	Comments on Valuation	6
V	Derivation of Experience Gains and Losses	7
<hr/>		
VI	Required Contribution Rates	9
VII	Accounting Information	10
<b><u>Schedule</u></b>		
A	Valuation Balance Sheet and Solvency Test	14
B	Development of Actuarial Value of Assets	16
C	Statement of Actuarial Assumptions and Methods	17
D	Summary of Main Benefit and Contribution Provisions	20
E	Detailed Tabulations of the Data	26
F	Gain/Loss Analysis Details	36
G	Glossary	46
<b><u>Appendix</u></b>		
A	Actuarial Accrued Liabilities	47
B	Breakdown of Total and Accrued Liabilities	48
C	Comparative Schedule	49



**REPORT ON THE ANNUAL VALUATION OF THE  
SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO**

**PREPARED AS OF JUNE 30, 2010**

**SECTION I – SUMMARY OF PRINCIPAL RESULTS**

1. This report, prepared as of June 30, 2010, presents the results of the annual actuarial valuation of the basic benefits provided under the System, including pension, Medicare Part B reimbursement and post-retirement death benefits. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized in the following table.

**SUMMARY OF PRINCIPAL RESULTS**

	June 30, 2010	June 30, 2009
<b>Active members included in valuation</b>		
Number	126,015	125,465
Annual Compensation	\$2,842,660,159	\$2,787,390,954
<b>Retirees</b>		
Number	66,127	65,757
Annual allowances	\$729,859,711	\$693,838,994
<b>Deferred Vesteds</b>		
Number	12,270	11,911
Annual deferred allowances	\$41,180,785	\$39,186,253
<b>Assets (net of Health Care Assets)</b>		
Market related actuarial value	\$10,909,119,440	\$9,836,220,633
Market value	\$9,071,931,012	\$8,134,107,325
<b>Unfunded Accrued Liability</b>	<b>\$4,312,493,739</b>	<b>\$4,745,756,614</b>
<b>Funded Ratio (MVA/AAL)</b>		
Pension and Post-retirement Death Benefits	72.62%	68.37%
Medicare Part B	33.30%	31.25%
<b>Employer Contribution Rate</b>		
Normal	3.79%	3.86%
Accrued liability	<u>8.78</u>	<u>9.68</u>
Total	12.57%	13.54%
Accrued liability amortization period (years)	29	30



2. The board has set a total contribution rate of 24% of payroll; 14% from employers and 10% from employees. Employer contributions in excess of those required to support the basic benefits are allocated to retiree health care funding.
  3. The valuation balance sheet showing the results of the valuation is given in Schedule A.
  4. Comments on the valuation results are given in Section IV, comments on the experience and actuarial gains during the valuation year are given in Section V, and the rates of contribution payable by employers are given in Section VI.
  5. There were no changes in actuarial assumptions or methods since the last valuation.
  6. Schedule B of this report presents the development of the actuarial value of assets. Schedule C details the actuarial assumptions and methods employed. Schedule D gives a summary of the benefit and contribution provisions of the plan.
  7. All information in this report for years prior to the year ended June 30, 2008 were provided by the System's previous actuary and the accuracy of that information is the responsibility of that actuary.
-



**SECTION II – MEMBERSHIP DATA**

Data regarding the membership of the System for use as a basis for the valuation were furnished by the System's office. The following tables summarize the membership of the system as of June 30, 2010 upon which the valuation was based. Detailed tabulations of the data are given in Schedule E.

**Active Members**

Number	Payroll	Group Averages		
		Salary	Age	Service
126,015	\$2,842,660,159	\$22,558	48.2	9.8

The total number of active members includes 78,296 vested members and 47,719 non-vested members. Vested members are those hired prior May 14, 2008 with at least five years of service and members hired on or after May 14, 2008 with at least ten years of service.

The following tables show a six-year history of active member valuation data.

**SCHEDULE SERS ACTIVE MEMBER VALUATION DATA**

Valuation Date	Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
6/30/2005	122,855	\$2,452,554,365	\$19,963	2.7%
6/30/2006	123,266	2,553,331,924	20,714	3.8
6/30/2007	123,013	2,603,300,211	21,163	2.2
6/30/2008	124,370	2,651,800,981	21,322	0.8
6/30/2009	125,465	2,787,390,954	22,216	4.2
6/30/2010	126,015	2,842,660,159	22,558	1.5



The following table shows the number and annual retirement allowances payable to retired members and their beneficiaries on the roll of the Retirement System as of the valuation date as well as certain group averages.

**Retired Lives**

Type of Benefit Payment	Number	Annual Benefits	Group Averages	
			Benefit	Age
Retirees and Beneficiaries	56,538	\$625,484,996	\$11,063	75.1
Disability	5,264	74,043,432	14,066	64.5
Survivors	4,325	30,331,283	7,013	70.8
<b>Total in SERS</b>	<b>66,127</b>	<b>\$729,859,711</b>	<b>\$11,037</b>	<b>74.0</b>

This valuation also includes 89,433 inactive members eligible for a contribution refund only (including 48,631 members not reported in the data files who had completed one or more years of service before terminating). Their contributions totaled \$123,115,341 as of June 30, 2010. There were also 12,270 terminated vested members with annual deferred pension benefits of \$41,180,785. Included in the "Retiree" numbers in the above table are 8,089 re-employed retirees with account balances of \$54,076,900 (including employer contributions and interest), 268 re-retirees receiving only an annuity from their contributions and their employers' matching contributions, and 310 re-retirees receiving such annuities in addition to their regular pension benefits. The sum of the annuity payments attributable to these re-retirees is \$1,908,384.



**SECTION III – ASSETS**

- As of June 30, 2010 the total market value of assets amounted to \$9,396,935,181. All figures include the combined Pension Trust Fund, Medicare B Fund, Death Benefit Fund and Health Care Fund but exclude the QEBA Fund.

Asset Summary Based on Market Value			
(1)	Assets at June 30, 2009	\$	8,510,566,546
(2)	Contributions and Misc. Revenue		855,202,530
(3)	Investment Gain (Loss)		1,067,252,214
(4)	Benefit Payments		(1,036,086,109)
(5)	Assets at June 30, 2010 (1) + (2) - (3) + (4)	\$	9,396,935,181
(6)	Annualized Rate of Return*		12.7 %

- The four-year smoothed market related actuarial value of assets used for the current valuation was \$10,909,119,440. Schedule B shows the development of the actuarial value of assets as of June 30, 2010. Again all figures include the combined Pension Trust Fund, Medicare B Fund, Death Benefit Fund and Health Care Fund but exclude the QEBA Fund.

Asset Summary Based on Actuarial Value			
(1)	Assets at June 30, 2009	\$	10,212,679,855
(2)	Contributions and Misc. Revenue		855,202,530
(3)	Investment Gain (Loss)		1,202,327,333
(4)	Benefit Payments		(1,036,086,109)
(5)	Assets at June 30, 2010 Before Application of Corridor (1) + (2) - (3) + (4)	\$	11,234,123,610
(6)	Annualized Rate of Return*		11.9 %
(7)	Additional Loss Recognized Due to Corridor		0
(8)	Assets at June 30, 2010 After Application of Corridor (5) + (7)	\$	11,234,123,610
(9)	Annualized Rate of Return*		11.9 %

\*Based on the approximation formula:  $I/[0.5 \times (A + B - I)]$ , where

- I = Investment Gain (Loss)
- A = Beginning of year asset value
- B = End of year asset value





#### **SECTION IV - COMMENTS ON VALUATION**

Schedule A of this report contains the valuation balance sheet which shows the present and prospective assets and liabilities of the System as of June 30, 2010.

1. The total valuation balance sheet on account of retirement benefits shows that the System has total prospective retirement benefit liabilities of \$18,387,972,113, of which \$7,603,024,224 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$510,546,161 is for the prospective benefits payable on account of present inactive members, and \$10,274,401,728 is for the prospective benefits payable on account of present active members. Against these retirement benefit liabilities the System has a total present actuarial value of assets of \$10,909,119,440 as of June 30, 2010. The difference of \$7,478,852,673 between the total liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of retirement benefits. Of this amount, \$2,361,359,370 is the present value of future contributions expected to be made by members, and the balance of \$5,117,493,303 represents the present value of future contributions payable by the employers.
2. The employers' contributions to the System on account of retirement benefits consist of normal contributions, accrued liability contributions and contributions for administrative expenses. The valuation indicates that employer normal contributions at the rate of 3.51% of payroll for basic pension benefits, 0.02% of payroll for post-retirement death benefits, and 0.26% of payroll for Medicare Part B benefits are required to provide the benefits of the System for the average member of SERS.
3. Prospective employer normal contributions on account of retirement benefits at the above rates have a present value of \$804,999,565. When this amount is subtracted from \$5,117,493,303, which is the present value of the total future contributions to be made by the employers, there remains \$4,312,493,739 as the amount of future accrued liability contributions.
4. For pension benefits, it is recommended that the accrued liability contribution rate payable by the State on account of retirement benefits be set at 8.26% of payroll. For post-retirement death benefits, it is recommended that the accrued liability contribution rate payable by the employers on account of retirement benefits be set at 0.02% of payroll. Finally for Medicare Part B benefits, it is recommended that the accrued liability contribution rate payable by the employers on account of retirement benefits be set at 0.50% of payroll. These rates are sufficient to amortize the unfunded accrued liability of \$4,312,493,739 over 29 years based on the assumption that the aggregate payroll for SERS members will increase by 4.00% each year.



**SECTION V – DERIVATION OF EXPERIENCE GAINS AND LOSSES**

Actual experience will never (except by coincidence) match exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the experience gain (loss) for the year ended June 30, 2010 is shown below (\$ millions).

**Experience Gain/(Loss)**

(1)	UAAL as of 6/30/09	\$	4,745.8
(2)	Normal cost from last valuation		386.3
(3)	Contributions		703.7
(4)	Interest accrual: [(1) + (2) - (3)*.5] x .08		382.4
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$	4,810.8
(6)	Change due to plan amendments		0.0
(7)	Change due to new actuarial assumption or methods		0.0
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$	4,810.8
(9)	Actual UAAL as of 6/30/010	\$	4,312.5
(10)	Gain/(loss): (8) - (9)	\$	498.3
(11)	Accrued liabilities as of 6/30/09	\$	14,582.0
(12)	Gain/(loss) as percent of actuarial accrued liabilities at start of year		3.4%



## ANALYSIS OF FINANCIAL EXPERIENCE

### Gains & Losses in Accrued Liabilities Resulting from Difference Between Assumed Experience & Actual Experience (\$ Millions)

Type of Activity	\$ Gain (or Loss) For Year Ending 6/30/010
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (40.6)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	(23.4)
<b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(0.5)
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	11.0
<b>Pay Increases.</b> If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	182.5
<b>New Members.</b> Additional accrued liability will be reflected as a loss.	(38.1)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	390.5
<b>Death After Retirement.</b> If retired members live longer than assumed, there is a loss. If not as long, a gain.	46.5
<b>Other.</b> Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>(29.6)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ 498.3
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes and method changes	<u>0.0</u>
<b>Composite Gain (or Loss) During Year</b>	\$ 498.3



**SECTION VI – REQUIRED CONTRIBUTION RATES**

The valuation balance sheet gives the basis for determining the percentage rates for contributions to be made by employers to the Retirement System. The following tables show the rates of contribution payable by employers.

**Required Contribution Rates**

Contribution for	Benefits	Retirement Death Benefits	Medicare Part B	Total
A. Normal Cost:				
(1) Service retirement benefits	8.10%			
(2) Disability benefits	1.32			
(3) Survivor benefits	0.24			
(4) Refunds	3.85			
(4) Total	13.51%	0.02%	0.26%	13.79%
B. Member Contributions	10.00%	0.00%	0.00%	10.00%
C. Employer Normal Cost: [A(4) - B]	3.51%	0.02%	0.26%	3.79%
D. Unfunded Actuarial Accrued Liability Contributions	8.26%	0.02%	0.50%	8.78%
E. Total Recommended Employer Contribution Rate:[C+D]	11.77%	0.04%	0.76%	12.57%



**SECTION VII - ACCOUNTING INFORMATION**

Governmental Accounting Standards Board Statements 25 and 27 set forth certain items of required supplementary information to be disclosed in the financial statements of the System and the employer. One such item is a distribution of the number of employees by type of membership, as follows:

**NUMBER OF ACTIVE AND RETIRED MEMBERS  
AS OF JUNE 30, 2010**

<b>GROUP</b>	<b>Total</b>
Retirees and beneficiaries currently receiving benefits	66,127
Terminated employees entitled to benefits but not yet receiving benefits	12,270
Active Members	<u>126,015</u>
Total	204,412

Another such item is the Schedule of Funding Progress for pension, post-retirement death and Medicare Part B benefits separately as shown in the following table.



**SCHEDULE OF FUNDING PROGRESS**  
(\$ In Millions)

Actuarial Valuation Date	Value of Plan Assets (a)	Actuarial Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a)/(c))
<b>Pension and Post-retirement Death Benefits</b>						
6/30/2005	\$ 8,780	\$ 11,659	2,948 <sup>^</sup>	75.3%	\$ 2,453	120.2%
6/30/2006	9,423	12,327	2,974 <sup>^</sup>	76.4	2,553	116.5
6/30/2007	10,513	13,004	2,562 <sup>^</sup>	80.8	2,603	98.4
6/30/2008	11,241	13,704	2,463	82.0	2,873	85.7
6/30/2009	9,723	14,221	4,498	68.4	2,787	161.4
6/30/2010	10,787	14,855	4,068	72.6	2,843	143.1
<b>Medicare Part B</b>						
6/30/2005	\$ 113	\$ 302	\$ 189	37.4%	\$ 2,453	7.7%
6/30/2006	119	300	181 <sup>^</sup>	39.7	2,553	7.1
6/30/2007	127	299	172 <sup>^</sup>	42.5	2,603	6.6
6/30/2008	131	358	227	36.7	2,873	7.9
6/30/2009	113	361	248	31.3	2,787	8.9
6/30/2010	122	367	244	33.3	2,843	8.6

<sup>^</sup> After change in calculation methods of health care assets, resulting in a \$70 million future liability due to Pension plans by the Health Care Fund



The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2010. Additional information as of the latest actuarial valuation follows.

Valuation date	6/30/2010
Actuarial cost method	Entry Age
Amortization	Level Percent Closed
Remaining amortization period	29 years
Asset valuation method	4 Year Smoothed Market
Actuarial assumptions	
Investment rate of return*	8.00%
* Includes price inflation at	3.50%
Projected salary increases^	4.50% - 24.75%
^ Includes wage inflation at	4.00%
Cost-of-living adjustment	3.00%



### Schedule of Employer Contributions

Year Ended	Annual Required Contribution	Percentage Contributed
<b>Pension and Post-retirement Death Benefits</b>		
June 30, 2005	\$ 239,089,392	100.0%
June 30, 2006	272,358,393	87.0
June 30, 2007	260,779,627	90.0
June 30, 2008	243,150,199	100.0
June 30, 2009	269,380,809	100.0
June 30, 2010	379,427,457	100.0
<b>Medicare Part B</b>		
June 30, 2005	\$ 16,956,695	100.0%
June 30, 2006	21,677,505	95.0
June 30, 2007	17,729,746	104.0
June 30, 2008	17,519,556	100.0
June 30, 2009	21,688,294	100.0
June 30, 2010	22,619,935	100.0





**SCHEDULE A**

**Valuation Balance Sheet and Solvency Test**

The following valuation balance sheet shows the assets and liabilities of the retirement system as of the current valuation date of June 30, 2010 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2009. The items shown in the balance sheet are present values actuarially determined as of the relevant valuation date.

**VALUATION BALANCE SHEETS  
SHOWING THE ASSETS AND LIABILITIES OF THE  
SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO**

	June 30, 2010	June 30, 2009
<b>ASSETS</b>		
Current actuarial value of assets	\$ 10,909,119,440	\$ 9,836,220,633
Prospective contributions		
Member contributions	\$ 2,361,359,370	\$ 2,338,415,033
Employer normal contributions	804,999,565	810,043,300
Unfunded accrued liability contributions	<u>4,312,493,739</u>	<u>4,745,756,614</u>
Total prospective contributions	<u>\$ 7,478,852,673</u>	<u>\$ 7,894,214,947</u>
Total assets	<u>\$ 18,387,972,113</u>	<u>\$ 17,730,435,580</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 7,603,024,224	\$ 7,273,340,500
Present value of benefits payable on account of active members	10,274,401,728	9,971,425,471
Present value of benefits payable on account of inactive and deferred vested members	<u>510,546,161</u>	<u>485,669,609</u>
Total liabilities	<u>\$ 18,387,972,113</u>	<u>\$ 17,730,435,580</u>

Included in the retiree liability shown above is the liability attributable to re-retiree annual annuity payments. Such liability amounts to \$15,285,256 for 2010 and \$11,465,828 for 2009.



The following tables provide the solvency test for SERS members.

**Solvency Test  
Pension and Death After Retirement Benefits<sup>1</sup>**

(\$ in Millions)

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Asset		
	(1)	(2)	(3)	Actuarial Value of Assets	(1)	(2)	(3)
	Active Member Contributions	Retired Members & Beneficiaries	Active Members (Employer Financed Portion)				
6/30/2005*	\$ 1,785	\$ 5,551	\$ 4,293	\$ 8,667	100.0%	100.0%	31.0%
6/30/2006*	2,064	6,006	4,467	8,893	100.0	100.0	18.4
6/30/2007*	2,180	6,413	4,557	9,542	100.0	100.0	20.8
6/30/2008	2,291	6,632	4,730	11,241	100.0	100.0	49.0
6/30/2009	2,470	7,034	4,664	9,723	100.0	100.0	4.7
6/30/2010	2,569	7,364	5,288	10,787	100.0	100.0	16.1

\*Reported by prior actuarial firm.

<sup>1</sup>Solvency Test are combines for Pension, Death After Retirement Benefits and Medicare Part B Benefits for valuations performed prior to 6/30/2008

**Solvency Test  
Medicare Part-B Benefits**

(\$ in Millions)

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Asset		
	(1)	(2)	(3)	Actuarial Value of Assets	(1)	(2)	(3)
	Active Member Contributions	Retired Members & Beneficiaries	Active Members (Employer Financed Portion)				
6/30/2008	0	241	168	131	100.0	54.5	0.0
6/30/2009	0	239	174	113	100.0	47.1	0.0
6/30/2010	0	239	181	122	100.0	51.1	0.0



**SCHEDULE B  
Development of Actuarial Value of Assets**

Valuation date June 30:		2009	2010	2011	2012	2013
A.	Actuarial Value Beginning of Year	\$ 11,765,134,710	\$ 11,632,068,234			
B.	Market Value End of Year	8,510,566,546	9,396,935,181			
C.	Market Value Beginning of Year	11,186,151,103	8,510,566,546			
D.	Cash Flow					
	D1. Contributions	750,269,158	763,839,049			
	D2. Other Revenue	97,284,347	96,449,404			
	D3. Benefit Payments	(973,005,674)	(1,036,086,109)			
	D4. Net Transfers	(3,224,094)	(5,085,923)			
	D5. Net	(128,676,263)	(180,883,579)			
E.	Investment Income					
	E1. Market Total: B.-C.-D5.	(2,546,908,294)	1,067,252,214			
	E2. Assumed Rate (Net of Expenses)	8.00%	8.00%			
	E3. Amount for Immediate Recognition	889,745,038	673,609,981			
	E4. Amount for Phased-In Recognition	(3,436,653,332)	393,642,233			
F.	Phased-In Recognition of Investment Income					
	F1. Current Year: 0.25 * E4.	(859,163,333)	98,410,558	0	0	0
	F2. First Prior Year	(414,093,435)	(859,163,333)	98,410,558	0	0
	F3. Second Prior Year	284,175,183	(414,093,435)	(859,163,333)	98,410,557	0
	F4. Third Prior Year	94,946,334	284,175,183	(414,093,435)	(859,163,333)	98,410,557
	F5. Total Recognized Investment Gain/(Loss)	(894,135,251)	(890,671,027)	(1,174,846,210)	(760,752,776)	98,410,557
G.	Preliminary Actuarial Value End of Year:					
	A.+D5.+E3.+F5.	\$ 11,632,068,234	\$ 11,234,123,610			
H.	Corridor					
	H1. 80% of Market Value	\$ 6,808,453,237	\$ 7,517,548,145			
	H2. 120% of Market Value	\$ 10,212,679,855	\$ 11,276,322,217			
I.	Actuarial Value End of Year:					
	G. Not Less than H1. or Not Greater than H2	\$ 10,212,679,855	\$ 11,234,123,610			
J.	Difference Between Market & Actuarial Values	\$ (3,121,501,668)	\$ (1,837,188,429)	\$ (662,342,219)	\$ 98,410,557	\$ -
K.	Health Care Valuation Assets	376,459,222	325,004,169			
L.	Basic Benefits Valuation Assets	\$ 9,836,220,633	\$ 10,909,119,440			

The Actuarial Valuation of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed 4 year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, actuarial value will become equal to market value.



**SCHEDULE C**

**STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

INTEREST RATE: 8.00% per annum, compounded annually (net after all System expenses).

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed rates of separation from active service are as follows:

Service	Annual Rates of Withdrawal
0	55.00%
1	20.00
2	15.00
3	10.00
4	7.50
5	6.50
10	5.00
15	3.75
20	3.50
25	3.00

Age	Annual Rates of			
	Death		Disability	
	Male	Female	Male	Female
20	.026%	.014%	.015%	.023%
25	.033	.015	.015	.023
30	.044	.017	.112	.075
35	.050	.022	.371	.075
40	.053	.033	.405	.157
45	.075	.046	.506	.187
50	.114	.065	.825	.394
55	.193	.104	.825	.608
60	.335	.193	.825	.608
65	.609	.381	.825	.608
70	1.082	.635	.825	.608
74	1.557	.917	.825	.608



Annual Rates of Service Retirements		
Age	Male	Female
50	40.0%	33.0%
55	25.0	25.0
60	10.0	20.0
62	15.0	15.0
65	25.0	25.0
70	20.0	20.0
75	100.0	100.0

**SALARY INCREASES:** Representative values of the assumed annual rates of salary increases are as follows:

Service	Annual Rates of		
	Merit & Seniority	Base (Economy)	Increase Next Year
0	20.75%	4.00%	24.75%
1	13.25	4.00	17.25
2	10.75	4.00	14.75
3	8.75	4.00	12.75
4	7.75	4.00	11.75
5	5.75	4.00	9.75
6	4.75	4.00	8.75
7	3.75	4.00	7.75
8	2.75	4.00	6.75
9	1.75	4.00	5.75
10-14	0.75	4.00	4.75
15 & over	0.50	4.00	4.50

**PAYROLL GROWTH:** 4.00% per annum, compounded annually.

**PRICE INFLATION:** 3.50% per annum, compounded annually.

**DEATH AFTER RETIREMENT:** The mortality table, for post-retirement mortality, used in evaluating allowances to be paid is the 1994 Group Annuity Mortality Table, set back one year for both men and women. Special tables are used for the period after disability retirement. This assumption is used to measure the probabilities of each benefit payment being made after retirement.

**MARRIAGE ASSUMPTION:** 80% married with the husband three years older than his wife.



VALUATION METHOD: Entry age normal cost method. Entry age is established on an individual basis.

ASSET VALUATION METHOD: Actuarial value, as developed in Schedule A. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the assumed valuation rate of return. The amount recognized each year is 25% of the difference between market value and expected market value. The actuarial value of assets cannot be less than 80% or more than 120% of market value.

---



SCHEDULE D

SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO  
Summary of Benefit and Contribution Provisions  
as of June 30, 2008

**Contributions for Basic Benefits** Members contribute 10% of pay and employers contribute 14% of pay. Employer contributions not required to finance basic benefits are allocated to the health care program.

**Final Average Salary** Average annual salary over the member's three highest years of service.

**Normal Retirement**

**Condition for Retirement**  
*Members prior to May 14, 2008* Attainment of age 65 with at least five years of creditable service, or completion of 30 years of creditable service, regardless of age.

*Members after May 13, 2008* Attainment of age 65 with at least ten years of creditable service, or attainment of age 55 with at least 30 years of creditable service.

**Amount of Allowance** The annual retirement allowance payable shall not be greater than 100% of final average salary, and is the greater of:

1. Money Purchase - the greater of:  
The sum of:
  - a. An annuity based on the value of the member's accumulated contributions at retirement
  - b. A pension equal to the annuity
  - c. for members prior to May 14, 2008, \$40 multiplied by the member's years of service prior to 9/1/1937.

or:

- d. For members who have 10 or more years of service credit prior to 10/1/1956, an annual benefit of \$180.

2. Defined Benefit - the greater of:  
The sum of:
  - a. 2.2% of final average salary multiplied by the member's years of service up to 30,
  - b. 2.5% of final average salary multiplied by the member's years of service in excess of 30,

or:

- c. \$86 multiplied by the years of service.



### Early Retirement

**Condition for Retirement**  
*Members prior to May 14, 2008* Not eligible for unreduced service retirement but has attained age 55 with at least 25 years of service, or age 60 with five years of service.

*Members after May 13, 2008* Attainment of age 62 with at least ten years of creditable service, or attainment of age 60 with at least 25 years of creditable service.

**Amount of Allowance**  
*Members prior to May 14, 2008* Normal retirement allowance accrued to the date of early retirement. The Defined Benefit amount determined above is adjusted by the following percentages based on attained age or years of service:

<u>Attained Age</u>	<u>Years of Ohio Service Credit</u>	<u>Percentage</u>
58	25	75%
59	26	80
60	27	85
61		88
	28	90
62		91
63		94
	29	95
64		97

*Members after May 13, 2008* Actuarial equivalent of the normal retirement allowance accrued to the date of early retirement. The Defined Benefit amount determined above is actuarially adjusted for the years before age 65 or 30 years of service, whichever is shorter, but in no event is the adjusted benefit less than the following percentages of the Defined Benefit amount based on years of service:

<u>Years of Ohio Service Credit</u>	<u>Percentage</u>
25	75%
26	80
27	85
28	90
29	95

### Disability Retirement

**Condition for Retirement** An allowance is paid upon becoming permanently disabled after completion of at least 5 years of total service credit.

**Amount of Allowance**

- For those who were active members prior to July 29, 1992 and did not elect the benefit structure outlined below, an allowance based on service to date of disablement, plus, if the age at disablement is less than 60, continuous service to age 60. The allowance is computed in the same manner as the defined benefit





service retirement allowance, subject to a minimum of 30% of FAS and a maximum of 75% of FAS. It is payable for life, unless terminated.

2. For those who became active members after July 28, 1992, and for those who were active members prior to July 29, 1992 who so elected, an allowance equal to the greater of (i) 45% of FAS, or (ii) the lesser of 60% of FAS, or the allowance computed in the same manner as the defined benefit service retirement allowance. The allowance will continue until:
  - a. The date the member is granted a service retirement benefit, or
  - b. The date the allowance is terminated, or
  - c. The later of the date the member attains age 65 or the date the disability allowance has been paid for the minimum duration in accordance with the following schedule:

<u>Age at Disability</u>	<u>Minimum Duration In Months</u>
60 and earlier	60
61	60
62	48
63	48
64	36
65	36
66	24
67	24
68	24
69 and older	12

**Death Benefits Prior to Retirement**

**Death While Eligible to Retire**

If a member dies in service after becoming eligible to retire with a service allowance and leaves a surviving spouse or other sole dependent beneficiary, the survivor may elect to receive the same amount that would have been paid had the member retired the last day of the month of death and elected the 100% joint and survivor form of payment.

**Survivor (Death-in-Service) Allowances**

**Condition for Benefit**

Upon the death of a member with at least 1½ years of Ohio service credit and with at least ¼ year of Ohio contributing service credit within 2½ years prior to the date of death, the survivor allowances are payable as follows:

1. **Qualified Spouse:** A monthly allowance commencing at age 62, except that the benefit is payable immediately if: (1) the qualified deceased member had 10 or more years of Ohio service credit; or (2) is caring for a surviving child, or (3) is incompetent.
2. **Qualified Child:** An allowance is payable to the qualified child of a deceased member who is under age 18, under age 22 and in school, or incompetent.
3. **Qualified Parent's Allowance:** A monthly allowance is payable to a dependent parent age 65 or more.



**Amount of Allowances**

Except when survived by a qualified child(ren), upon the death of a member prior to retirement, the accumulated contributions of the member without interest is payable. Alternatively, the beneficiary may elect the following amounts, payable monthly while eligible:

<u>Number of Qualified Survivors</u>	<u>Annual Benefit as Percent of Member's FAS</u>	<u>Minimum Monthly Allowance</u>
1	25%	\$96
2	40	186
3	50	236
4	55	236
5 or more	60	236

If the deceased member had attained at least 20 years of service, the total benefits payable to all qualified survivors are not less than:

---

<u>Years of Service</u>	<u>Annual Benefit as Percent of Member's FAS</u>
20	29%
21	33
22	37
23	41
24	45
25	48
26	51
27	54
28	57
29 or more	60

**Termination Benefits**

Refund of Members' Accumulated Contributions

In the event a member leaves service before any monthly benefits are payable on his behalf, his accumulated contributions, without interest, may be refunded.

Deferred Benefits  
*Members prior to May 14, 2008*

If a member with at least 5 years of contributing service credit leaves service before being eligible for an immediate monthly allowance and does not withdraw any part of his accumulated contributions, he will be entitled to a deferred allowance at age 60. The amount of the allowance is based on his credited service and final average salary at termination of employment.

*Members after May 14, 2008*

If a member with at least 10 years of contributing service credit leaves service before being eligible for an immediate monthly allowance and does not withdraw any part of his accumulated contributions, he will be entitled to a deferred allowance at age 62. The amount of the allowance is based on his credited service and final average salary at termination of employment.

**Normal Form of Benefit**

Single Life Annuity



### **Optional Forms of Benefit**

A member upon retirement may elect to receive his allowance in one of the following forms that are computed to be actuarially equivalent to the applicable retirement allowance:

Upon the death of a retiree, 50%, 100%, or some other percentage of his reduced retirement allowance shall be continued throughout the life of, and paid to, a designated beneficiary.

A reduced retirement allowance shall be continued throughout the life of the pensioner, but with the further guarantee of payment to the pensioner, his beneficiary or his estate for a specified number of years certain.

A member can select a partial lump-sum option at retirement. Under this option, the partial lump-sum shall not be less than 6 times and not more than 36 times the unreduced monthly benefit, and the monthly benefit will be actuarially reduced. In addition, the monthly benefit payable cannot be less than 50% of the unreduced amount.

---

### **Post-Retirement Death Benefit**

Regardless of the form of benefit selected, a lump sum benefit of \$1,000 is paid at the death of the retiree.

### **Post-Retirement Increases**

On each anniversary of the initial date of retirement, the allowances of all retirees and survivors are increased by 3% of the base benefit.

### **Medicare Part B**

Each recipient of a service retirement benefit, a disability benefit or a survivor benefit who was credited with at least 10 years of service and is covered under Medicare Part B is reimbursed \$45.50 per month for premiums for that coverage.

### **Re-Employed Retirants**

#### **Eligibility Effective**

July 1, 1991, service retirees of SERS, or service or disability retirees of one of the other four Ohio retirement systems who are employed in a SERS covered position are required to contribute to a money purchase annuity, a type of defined contribution plan.

#### **Amount of Allowance**

Upon termination of employment, a re-employed retirant who has attained age 65 is eligible to receive an annuity based on the amount of his/her accumulated contributions, and an equal amount of employer contributions, plus interest to the effective date of retirement. Effective July 1, 2006 the amount of employer contributions will be determined by the Board. Interest is granted on the reemployed retirant's prior fiscal year account balance, calculated using a rate determined by the SERS Board, compounded annually. The benefit is payable as a lump sum or as an annuity if the amount of such annuity is at least \$25. Upon termination of employment, a re-employed retirant who has not attained age 65 may request a lump sum refund of his/her own contributions; there is no payment of employer contributions or interest.

#### **Benefits Payable Upon Death**

If a re-employed retirant dies while employed, a lump sum payment of the monthly annuity, discounted to the present



value using the current actuarial assumption rate of interest, will be paid to his beneficiary.

If a re-employed retirant dies while receiving a monthly annuity, a lump sum payment will be made to a beneficiary in an amount equal to the excess, if any, of the lump sum payment the re-employed retirant would have received at the effective date of retirement over the sum of the annuity payments received by the re-employed retirant to the date of death.

Member Contributions	Each re-employed retirant is required to contribute 10% of his pay by payroll deductions.
Employer Contributions	Employer contributions are expressed as percents of member covered payroll. Employers are required to contribute 14% of payroll.
Other Benefits	Re-employed retirants of SERS are not eligible to receive any of the other benefits provided to SERS members.

---

<b>Member Contributions</b>	10% of salary.
-----------------------------	----------------



**SCHEDULE E**

**DETAILED TABULATIONS OF THE DATA**

**Schedule of Retired Members Added to and Removed From Rolls  
Last Six Fiscal Years**

Year Ending June 30	2005*	2006*	2007*	2008	2009	2010
Beginning of Year	60,569	61,433	62,521	63,529	64,818	65,757
Added	3,683	3,750	3,596	3,448	3,103	2,694
Removed	2,819	2,662	2,588	2,159	2,164	2,324
End of Year	61,433	62,521	63,529	64,818	65,757	66,127
	<b>Annual Retirement Allowances</b>					
Beginning of Year	\$ 491,618,849	\$ 527,931,968	\$ 566,770,892	\$ 607,386,140	\$ 652,373,571	\$ 693,838,994
Added	38,670,969	40,115,408	44,864,781	46,243,749	41,970,065	37,351,889
Removed	2,357,850	1,276,484	4,249,533	1,256,318	504,642	1,331,166
End of Year	\$ 527,931,968	\$ 566,770,892	\$ 607,386,140	\$ 652,373,571	\$ 693,838,994	\$ 729,859,717
% Increase in Allowances	7.39%	7.36%	7.17%	7.41%	6.36%	5.19%
Average Annual Allowance	\$ 8,594	\$ 9,065	\$ 9,561	\$ 10,065	\$ 10,552	\$ 11,037

\*Reported by prior actuarial firm.



**Annuity and Pension Reserve Fund  
Retired Information June 30, 2010  
Retired Members By Type of Benefit**

Amount of Monthly Benefit		Total	Service	Disability	Survivor
\$ 1 - \$	250	12,919	11,602	164	1,153
251 -	500	12,461	10,412	747	1,302
501 -	750	10,475	8,725	920	830
751 -	1,000	7,842	6,578	810	454
1,001 -	1,500	10,128	8,562	1,231	335
1,501 -	2,000	5,336	4,524	678	134
Over	2,000	<u>6,698</u>	<u>5,867</u>	<u>714</u>	<u>117</u>
		65,859	56,270	5,264	4,325

Average Monthly Benefit  
Average Age

\$ 923      \$ 1,172      \$ 584  
74.7      64.5      70.8



**Annuity and Pension Reserve Fund  
Retired Information June 30, 2010  
Tabulated by Attained Ages**

Attained Age	Retirement		Disability Retirement		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 45	0	\$ -	96	\$ 1,425,016	96	\$ 1,425,016
45-49	51	\$ 1,596,672	255	\$ 4,737,421	306	\$ 6,334,093
50-54	515	\$ 16,393,729	567	\$ 10,621,345	1,082	\$ 27,015,074
55-59	1,409	\$ 38,666,060	935	\$ 16,415,370	2,344	\$ 55,081,430
60-64	5,710	\$ 85,816,391	1144	\$ 17,552,119	6,854	\$ 103,368,510
65-69	9,366	\$ 119,879,952	770	\$ 10,219,489	10,136	\$ 130,099,440
70-74	10,357	\$ 122,363,460	590	\$ 6,386,335	10,947	\$ 128,749,796
75-79	8,883	\$ 91,678,284	443	\$ 3,661,363	9,326	\$ 95,339,647
80-84	7,486	\$ 64,689,429	276	\$ 2,019,729	7,762	\$ 66,709,158
85-89	5,063	\$ 35,898,694	143	\$ 836,067	5,206	\$ 36,734,761
90 & Over	2,676	\$ 14,033,584	45	\$ 169,178	2,721	\$ 14,202,762
Totals	51,516	\$ 591,016,255	5,264	\$ 74,043,432	56,780	\$ 665,059,687



**Annuity and Pension Reserve Fund  
Survivors of Annuitants Information June 30, 2010  
Tabulated by Attained Ages**

Attained Age	Life Annuities		Periods Certain		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 45	42	\$ 199,485	4	\$ 29,236	46	\$ 228,721
45-49	25	\$ 137,318	2	\$ 9,487	27	\$ 146,804
50-54	45	\$ 304,272	5	\$ 78,751	50	\$ 383,024
55-59	93	\$ 795,378	2	\$ 14,185	95	\$ 809,563
60-64	162	\$ 1,537,096	3	\$ 9,609	165	\$ 1,546,704
65-69	327	\$ 2,802,187	7	\$ 50,608	334	\$ 2,852,794
70-74	556	\$ 4,256,368	11	\$ 66,689	567	\$ 4,323,057
75-79	923	\$ 7,314,363	5	\$ 10,660	928	\$ 7,325,024
80-84	1,144	\$ 8,060,504	1	\$ 13,120	1,145	\$ 8,073,624
85-89	1,040	\$ 5,855,961	1	\$ 3,587	1,041	\$ 5,859,548
90 & Over	624	\$ 2,919,877	0	\$ -	624	\$ 2,919,877
Totals	4,981	\$ 34,182,809	41	\$ 285,931	5,022	\$ 34,468,740





**All Benefit Recipients  
Male and Female Demographic Breakdown  
June 30, 2010**

Attained Age	Number of		Total Number
	Males	Females	
Under 20	30	32	62
20-24	11	19	30
25-29	2	9	11
30-34	7	1	8
35-39	14	24	38
40-44	58	81	139
45-49	198	233	431
50-54	624	697	1,321
55-59	1,107	1,602	2,709
60-64	1,951	5,529	7,480
65-69	2,761	8,326	11,087
70-74	3,082	9,133	12,215
75-79	2,783	8,136	10,919
80-84	2,283	7,220	9,503
85-89	1,422	5,211	6,633
90-94	529	2,273	2,802
95-99	83	580	663
100	1	35	36
101	1	17	18
102	0	16	16
103	1	3	4
104	0	2	2
105 & Over		0	0
<b>Total</b>	<b>16,948</b>	<b>49,179</b>	<b>66,127</b>



**Survivor Benefit Fund  
Survivors of Deceased Active Member Information June 30, 2010  
Tabulated by Attained Ages**

Attained Age	No.	Annual Benefits
Under 45	146	\$ 1,450,294
45-49	98	\$ 1,068,575
50-54	189	\$ 1,963,673
55-59	270	\$ 2,841,405
60-64	461	\$ 4,043,095
65-69	617	\$ 4,241,965
70-74	701	\$ 4,922,084
75-79	665	\$ 4,116,940
80-84	596	\$ 3,157,399
85-89	386	\$ 1,708,144
90 & Over	196	\$ 817,708
Totals	4,325	\$ 30,331,283



**Total Active Members as of June 30, 2010  
Tabulated by Attained Ages and Years of Service**

Attained Age	Years of Service to Valuation Date							Totals
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
Under 20	707							
Avg Pay	\$4,816							\$3,404,999
20-24	5,072	86						
Avg Pay	\$8,507	\$21,200						\$44,970,289
25-29	5,176	800	81					
Avg Pay	\$13,686	\$26,600	\$34,135					\$94,881,570
30-34	4,529	1,519	608	29				
Avg Pay	\$14,394	\$28,151	\$33,288	\$39,404				\$129,335,566
35-39	5,960	2,593	1,352	331	51			
Avg Pay	\$13,757	\$25,456	\$34,016	\$38,437	\$39,673			\$208,730,933
40-44	7,220	4,102	2,667	819	380	71	1	
Avg Pay	\$12,978	\$22,845	\$29,333	\$39,234	\$43,148	\$45,226	\$43,683	\$317,423,002
44-49	6,829	5,529	5,106	1,993	1,112	676	126	
Avg Pay	\$13,580	\$22,070	\$26,706	\$32,312	\$40,055	\$46,286	\$47,261	\$497,304,939
50-54	5,168	4,793	5,784	3,626	2,143	1,164	612	
Avg Pay	\$14,236	\$22,941	\$26,039	\$29,081	\$34,963	\$43,284	\$46,426	\$593,305,511
55-59	3,450	2,960	3,717	3,107	3,084	1,467	743	
Avg Pay	\$14,618	\$24,023	\$26,937	\$28,555	\$31,428	\$36,597	\$42,550	\$492,610,111
60-64	2,143	1,872	1,698	1,600	2,118	1,548	811	
Avg Pay	\$13,778	\$23,113	\$27,525	\$29,983	\$30,992	\$33,467	\$34,877	\$313,237,043
65-69	926	803	628	473	553	510	612	
Avg Pay	\$9,987	\$19,203	\$24,407	\$26,928	\$29,706	\$31,188	\$30,599	\$103,792,645
70 & over	535	476	317	192	201	202	454	
Avg Pay	\$7,849	\$14,101	\$18,972	\$22,916	\$21,784	\$26,477	\$27,778	\$43,663,551
<b>Totals</b>	<b>47,715</b>	<b>25,533</b>	<b>21,958</b>	<b>12,170</b>	<b>9,642</b>	<b>5,638</b>	<b>3,359</b>	<b>126,015</b>
<b>Avg Pay</b>	<b>\$12,952</b>	<b>\$23,267</b>	<b>\$27,434</b>	<b>\$30,376</b>	<b>\$33,319</b>	<b>\$37,537</b>	<b>\$37,407</b>	<b>\$22,558</b>

Averages:  
Age: 48.2  
Service: 9.8  
Annual Pay: \$22,558



**Male Active Members as of June 30, 2010  
Tabulated by Attained Ages and Years of Service**

Attained Age	Years of Service to Valuation Date							Totals
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
Under 20	398							
Avg Pay	\$5,025							\$1,999,908
20-24	2,573	56						
Avg Pay	\$8,614	\$24,855						\$23,555,340
25-29	2,394	399	43					
Avg Pay	\$13,748	\$31,559	\$40,660					\$47,253,992
30-34	1,789	564	258	16				
Avg Pay	\$14,517	\$34,702	\$40,436	\$44,664				\$56,691,006
35-39	1,878	642	424	146	26			
Avg Pay	\$15,301	\$35,679	\$44,273	\$44,612	\$42,215			\$78,024,712
40-44	2,077	782	575	303	184	33	1	
Avg Pay	\$14,073	\$32,616	\$43,406	\$49,938	\$47,818	\$47,345	\$43,683	\$105,230,761
44-49	2,165	941	752	390	418	381	69	
Avg Pay	\$14,542	\$31,489	\$41,384	\$46,925	\$47,841	\$49,740	\$48,251	\$152,814,545
50-54	1,890	1,078	815	478	488	522	314	
Avg Pay	\$15,068	\$31,855	\$38,618	\$43,768	\$46,949	\$51,293	\$50,117	\$180,634,978
55-59	1,556	979	726	524	475	415	302	
Avg Pay	\$16,296	\$29,969	\$37,237	\$40,663	\$45,598	\$47,887	\$49,303	\$159,459,959
60-64	1,143	811	486	338	318	279	150	
Avg Pay	\$15,591	\$27,545	\$36,533	\$41,787	\$42,944	\$46,631	\$45,125	\$105,473,340
65-69	497	455	280	151	115	92	65	
Avg Pay	\$11,666	\$21,514	\$29,094	\$34,739	\$41,783	\$43,008	\$45,718	\$40,712,357
70 & over	278	257	162	74	55	46	30	
Avg Pay	\$9,561	\$17,394	\$23,159	\$29,429	\$30,430	\$36,537	\$40,803	\$17,636,132
Totals	18,638	6,964	4,521	2,420	2,079	1,768	931	37,321
Avg Pay	\$13,554	\$30,425	\$38,751	\$43,155	\$45,502	\$48,535	\$48,296	\$25,977

Averages:  
 Age: 46.6  
 Service: 8.2  
 Annual Pay: \$25,977

**Female Active Members as of June 30, 2010  
Tabulated by Attained Ages and Years of Service**



Attained Age	Years of Service to Valuation Date							Totals
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
Under 20	309							
Avg Pay	\$4,547							\$1,405,091
20-24	2,499	30						
Avg Pay	\$8,397	\$14,377						\$21,414,949
25-29	2,782	401	38					
Avg Pay	\$13,632	\$21,666	\$26,751					\$47,627,578
30-34	2,740	955	350	13				
Avg Pay	\$14,314	\$24,282	\$28,019	\$32,931				\$72,644,560
35-39	4,082	1,951	928	185	25			
Avg Pay	\$13,046	\$22,091	\$29,329	\$33,564	\$37,030			\$130,706,221
40-44	5,143	3,320	2,092	516	196	38		
Avg Pay	\$12,535	\$20,543	\$25,465	\$32,949	\$38,763	\$43,387		\$212,192,241
44-49	4,664	4,588	4,354	1,603	694	295	57	
Avg Pay	\$13,134	\$20,138	\$24,171	\$28,756	\$35,366	\$41,826	\$46,064	\$344,490,394
50-54	3,278	3,715	4,969	3,148	1,655	642	298	
Avg Pay	\$13,757	\$20,354	\$23,976	\$26,850	\$31,429	\$36,771	\$42,538	\$412,670,533
55-59	1,894	1,981	2,991	2,583	2,609	1,052	441	
Avg Pay	\$13,239	\$21,085	\$24,436	\$26,099	\$28,849	\$32,143	\$37,926	\$333,150,152
60-64	1,000	1,061	1,212	1,262	1,800	1,269	661	
Avg Pay	\$11,706	\$19,725	\$23,913	\$26,821	\$28,881	\$30,572	\$32,552	\$207,763,703
65-69	429	348	348	322	438	418	547	
Avg Pay	\$8,042	\$16,182	\$20,637	\$23,265	\$26,535	\$28,586	\$28,802	\$63,080,288
70 & over	257	219	155	118	146	156	424	
Avg Pay	\$5,998	\$10,237	\$14,594	\$18,832	\$18,527	\$23,510	\$26,857	\$26,027,419
Totals	29,077	18,569	17,437	9,750	7,563	3,870	2,428	88,694
Avg Pay	\$12,566	\$20,582	\$24,500	\$27,204	\$29,970	\$32,512	\$33,231	\$21,120

**Averages:**

Age: 48.9  
 Service: 10.5  
 Annual Pay: \$21,120

Active Members as of June 30, 2010

By Annual Pay



Annual Pay	Number of Active Members			Portion of Total Number	
	Men	Women	Totals	Group	Cumulative
Less than \$1,000	238	284	522	0.4%	0.4%
\$1,000 - 1,999	1,173	1,309	2,482	2.0%	2.4%
2,000 - 2,999	2,107	2,053	4,160	3.3%	5.7%
3,000 - 3,999	2,243	2,302	4,545	3.6%	9.3%
4,000 - 4,999	1,589	2,319	3,908	3.1%	12.4%
5,000 - 5,999	1,256	2,254	3,510	2.8%	15.2%
6,000 - 6,999	986	2,109	3,095	2.5%	17.6%
7,000 - 7,999	822	2,207	3,029	2.4%	20.0%
8,000 - 8,999	716	2,156	2,872	2.3%	22.3%
9,000 - 9,999	670	2,329	2,999	2.4%	24.7%
10,000 - 11,999	1,280	4,489	5,769	4.6%	29.3%
12,000 - 13,999	1,186	4,909	6,095	4.8%	34.1%
14,000 - 15,999	1,252	6,308	7,560	6.0%	40.1%
16,000 - 17,999	1,227	7,143	8,370	6.6%	46.8%
18,000 - 19,999	1,098	6,352	7,450	5.9%	52.7%
20,000 - 24,999	2,319	12,928	15,247	12.1%	64.8%
25,000 - 29,999	2,227	8,200	10,427	8.3%	73.0%
30,000 - 35,999	3,487	7,397	10,884	8.6%	81.7%
36,000 and over	11,445	11,646	23,091	18.3%	100.0%
<b>Totals</b>	<b>37,321</b>	<b>88,694</b>	<b>126,015</b>		



## SCHEDULE F

### GAIN/LOSS ANALYSIS DETAILS

#### COMMENTS

Regular actuarial valuations measure the Retirement System's present financial position and contributions adequacy by calculating and financing the liabilities created by the present benefit program. This process involves discounting to present values the future benefit payments on behalf of present active and retired members and their survivors. However, valuations do not produce information regarding the amount of increases or decreases in unfunded actuarial accrued liabilities (UAAL) -- gain/loss analyses do.

---

The overall gain/loss to the Retirement System is the difference between the actual UAAL and the expected UAAL. A gain/loss analysis shows the breakdown of the overall system gain/loss by economic and non-economic risk areas. The economic risk areas are investment return and pay increases. The non-economic risk areas are service retirement, disability retirement, death in active service, termination (vested and non-vested), retiree mortality, and new members. Gains and losses resulting from data adjustments, timing of financial transactions, etc. are included separately as a miscellaneous item.

It is expected that actual experience will not coincide with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Changes in actuarial assumptions should be made for risk areas when the differences between actual and expected experience are consistently sizable over a period of years. Differences over a relatively short period of time may or may not be indicative of long-term trends, which are the basis of actuarial assumptions.

The actuarial assumptions used in this analysis were adopted by the Board in May 2006.

Any historical information and data shown in the report with a valuation date prior to June 30, 2008 were obtained from the previous actuary's report.











**School Employees Retirement System of Ohio**  
**Experience Gains & Losses By Risk Area**  
**Comparative Schedule**  
**(\$ Millions)**

Year Ending June 30	Economic				Gain (Loss) by Risk Area							Retired Lives	New Members	Other	\$	% of AAL
	Pay Increases	Investment	Age & Service Retirement	Disability	Death In Service	Withdrawal	Non-Economic	Other								
2001*	51.3	(13.0)	32.4	7.3	(0.9)	68.0						(3.3)			65.2	0.7
2002*	(151.3)	(533.6)	41.5	0.2	1.6	(9.8)						44.1			(610.4)	(6.6)
2003*	28.0	(781.4)	(29.7)	(0.3)	(0.3)	38.8						30.0			(776.7)	(7.8)
2004*	83.6	(763.8)	(45.2)	0.0	0.5	56.6						23.3			(694.0)	(6.5)
2005*	101.6	(397.4)	(82.6)	2.1	(0.7)	52.7						12.4			(436.3)	(3.9)
2006*	76.4	44.7	37.9	1.2	0.2	(52.9)						15.8			(58.8)	(0.5)
2007*	121.0	504.3	13.4	0.9	(0.3)	(73.2)						(10.2)			517.6	4.1
2008	95.8	(6.6)	(96.1)	(3.5)	(0.6)	8.1						72.4			99.4	6.1
2009	107.5	(2,265.2)	(50.8)	(28.7)	(0.6)	(11.9)						51.8			(2,048.2)	(14.0)
2010	182.5	390.5	(40.6)	(23.4)	(0.5)	11.0						46.5			498.3	3.4

\* Reported by a prior actuary

+ Includes effect of changes in data, timing of financial transactions, etc.

^ Included in "Other" risk area



The market related actuarial value of assets is based on a four-year average of adjusted market value returns. The difference between the actual returns at market value for the year and expected returns is determined. Twenty-five percent (25%) of that difference is added to the expected value along with corresponding amounts from each of the prior three years.

The actuarial value of assets for the basic benefits as of June 30, 2010 was \$10,909,119,440. The value for the previous year was \$9,836,220,633.

**School Employees Retirement System of Ohio**  
**Development of Gain (Loss) for Basic Benefits**  
**From Investment Return**  
**For the Year Ended June 30, 2010**  
**(\$ millions)**

---

	<u>\$ Millions</u>
1. Actuarial value of assets as of June 30, 2009	\$ 9,836.2
2. Actuarial value of assets as of June 30, 2010	
a. Actual	10,909.1
b. If 8.00% assumed investment return was achieved for all phased-in years recognized in the asset method	10,518.6
3. Gain (Loss): 2a minus 2b	<u>\$ 390.5</u>



**Pay Increases During the 2009- 2010 Valuation Year  
To Members Active at Beginning and End of Year**

Central Age Group Beginning of Year	Number	Pay Increases	
		Actual	Expected
Under 25	2,029	(0.84)%	16.60%
25	3,908	5.00	15.55
30	4,980	4.95	12.51
35	7,738	5.11	10.98
40	12,760	4.91	9.63
45	18,890	4.14	8.12
50	21,854	3.32	6.98
55	18,040	2.85	6.44
60	12,110	2.28	6.28
65 & Over	7,192	2.09	6.28
Total	109,501	4.47	7.74



**Members Who Became Age & Service Retirees During the 2009- 2010 Valuation Year  
(Retirement With Allowance Beginning Immediately)**

Attained Age	Years of Service to Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30 plus	
Under 50							19	19
50							3	3
51							12	12
52							15	15
53							12	12
54							22	22
55						22	15	37
56						18	16	34
57						18	23	41
58						25	21	46
59						20	15	35
60		40	31	37	60	30	26	224
61		40	23	21	29	27	26	166
62		56	33	30	23	32	35	209
63		41	22	19	15	27	25	149
64		28	13	15	15	13	19	103
65		38	25	19	38	29	40	189
66		33	29	19	15	23	26	145
67		13	18	8	16	22	17	94
68		11	9	10	15	4	18	67
69		16	11	6	7	7	11	58
70 & Over		75	53	30	36	24	88	306
<b>Totals</b>	<b>0</b>	<b>391</b>	<b>267</b>	<b>214</b>	<b>269</b>	<b>341</b>	<b>504</b>	<b>1,986</b>

Average Age: 64.0  
Average Service: 23.5

Note that this table excludes active members who worked less than one-quarter of the fiscal year for the last two years. These members are deemed inactive members by the System.



**Members Who Died in 2009- 2010 Valuation Year  
With a Death-in-Service Allowance Payable**

Central Age Group Beginning of Year	Number
Under 25	
25	0
30	
35	0
40	3
45	19
50	25
55	22
60	29
65	17
70 & Over	26
Total	141

Average Age: 58.8  
Average Service: 17.8



**Members Who Died in 2009- 2010 Valuation Year  
and Received a Refund of Contributions**

Central Age Group Beginning of Year	Number
Under 25	1
25	1
30	2
35	0
40	1
45	3
50	2
55	7
60	3
65	0
70 & Over	2
Total	22

Average Age: 57.4  
Average Service: 1.7





**Members Who Became Disability Retirees  
During the 2009- 2010 Valuation Year**

Central Age Group Beginning of Year	Number
Under 25	
25	
30	
35	3
40	10
45	28
50	33
55	60
60	66
65	12
70 & Over	5
Total	217

Average Age: 55.4  
Average Service: 18.0



**Members Receiving a Refund of Contributions  
or Becoming Inactive Without a Refund in  
the 2009- 2010 Valuation Year  
(Non-vested Terminations)**

Central Age Group Beginning of Year	Number
Under 25	1,248
25	2,064
30	1,398
35	1,216
40	1,574
45	1,592
50	1,378
55	990
60	657
65	344
70 & Over	303
<b>Total</b>	<b>12,764</b>

Average Age: 39.4  
Average Service: 1.8





**Members Who Became Inactive  
in the 2009- 2010 Valuation Year  
with a Deferred Allowance  
(Vested Terminations)**

Central Age Group Beginning of Year	Number
Under 25	0
25	9
30	42
35	45
40	69
45	126
50	182
55	158
60	90
65	32
70 & Over	14
<b>Total</b>	<b>767</b>

Average Age: 49.3  
Average Service: 10.1



## SCHEDULE G

### GLOSSARY

Actuarial Accrued Liability. The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability".

Accrued Service. The service credited under the plan which was rendered before the date of the actuarial valuation.

Actuarial Assumptions. Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method".

Actuarial Equivalent. A series of payments is called an actuarial equivalent of another series of payments if the two series have the same actuarial present value.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Amortization. Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

Experience Gain (Loss). A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

Normal Cost. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost". Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

Plan Termination Liability. The actuarial present value of future plan benefits based on the assumption that there will be no further accruals for future service and salary. The termination liability will generally be less than the liabilities computed on a "going concern" basis and is not normally determined in a routine actuarial valuation.

Reserve Account. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability".

Valuation Assets. The value of current plan assets recognized for valuation purposes. Generally based on book value plus a portion of unrealized appreciation or depreciation.



**APPENDIX A**

**ACTUARIAL ACCRUED LIABILITIES  
AS OF JUNE 30, 2010**

<b>Present Value of</b>	<b>Basic Benefits</b>	<b>Medicare Part B</b>	<b>Death Benefit</b>	<b>Total</b>
Future benefits to present retirees and survivors	\$ 7,351,062,443	\$ 228,810,849	\$ 23,150,932	\$ 7,603,024,224
Benefits and refunds to present inactive members	498,930,826	10,003,340	1,611,995	510,546,161
Allowances to present active members				
Service	6,413,328,535	111,182,642	6,465,983	6,530,977,160
Disability	316,401,962	4,977,711	427,820	321,807,493
Survivor benefits	111,317,145	1,922,425	-	113,239,570
Withdrawal	132,308,556	9,655,258	54,757	142,018,571
Total Active AAL	6,973,356,198	127,738,036	6,948,560	7,108,042,794
Total AAL	<u>\$ 14,823,349,467</u>	<u>\$ 366,552,225</u>	<u>\$ 31,711,487</u>	<u>\$ 15,221,613,179</u>



**APPENDIX B**

**BREAKDOWN OF TOTAL AND ACCRUED LIABILITIES  
AS OF JUNE 30, 2010**

	Total Liability	Accrued Liability
<b>Active Members</b>		
Retirement	\$8,248,766,088	\$6,413,328,535
Death	164,859,328	111,317,145
Disability	623,935,749	316,401,962
Termination	1,043,770,751	132,308,556
Medicare Part B	181,445,989	127,738,036
Death after Retirement	<u>11,623,823</u>	<u>6,948,560</u>
Total	\$10,274,401,728	\$7,108,042,794
<b>Retirees</b>		
Retirement/Survivor/Disability	\$7,351,062,443	\$7,351,062,443
Medicare Part B	228,810,849	228,810,849
Death after Retirement	<u>23,150,932</u>	<u>23,150,932</u>
Total	\$7,603,024,224	\$7,603,024,224
Deferred Vested Members	338,852,002	338,852,002
Inactive Members	<u>171,694,159</u>	<u>171,694,159</u>
Total Actuarial Values	\$18,387,972,113	\$15,221,613,179
Actuarial Value of Assets		<u>10,909,119,440</u>
Unfunded Actuarial Accrued Liability		\$4,312,493,739



**APPENDIX C**

**COMPARATIVE SCHEDULE  
AS OF JUNE 30, 2010**

Valuation Date June 30	Active Members				Retired Lives				Accrued Liability	Valuation Assets \$Millions	UAAL	
	Number		Average Salary		Number		Annual Benefits					
	Payroll \$ Millions	% Increase	Retired	Active / Retired	\$ Millions	% of Payroll	\$ Millions					
2001	115,684	1,974	17,065	4.1	58,795	2.0	2.0	404.5	20.5	9,257	8,791	466
2002	120,254	2,176	18,093	6.0	59,349	2.0	2.0	432.2	19.9	9,986	8,879	1,107
2003	122,315	2,302	18,823	4.0	59,999	2.0	2.0	461.2	20.0	10,635	8,772	1,863
2004	123,139	2,394	19,442	3.3	60,569	2.0	2.0	491.6	20.5	11,251	8,667	2,584
2005	122,855	2,453	19,963	2.7	61,433	2.0	2.0	527.9	21.5	11,961	8,893	3,137 *
2006	123,266	2,553	20,714	3.8	62,521	2.0	2.0	566.8	22.2	12,627	9,542	3,155 *
2007	123,013	2,603	21,163	2.2	63,529	1.9	1.9	607.4	23.3	13,303	10,640	2,734 *
2008	124,370	2,652	21,322	0.8	64,818	1.9	1.9	652.4	24.6	14,062	11,372	2,689
2009	125,465	2,787	22,216	4.2	65,757	1.9	1.9	693.8	24.9	14,582	9,836	4,746
2010	126,015	2,843	22,558	1.5	66,127	1.9	1.9	729.9	25.7	15,222	10,909	4,312

\*After the adjustment to reflect health care asset restatement

\* after the adjustment to reflect health care asset restatement