New York State and
Local
Employees' Retirement
System
Police and Fire Retirement System
Public Employees' Group Life Insurance
Plan

Thomas P. DiNapoli, Comptroller

ANNUAL REPORT TO THE COMPTROLLER ON ACTUARIAL ASSUMPTIONS

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I. Executive Summary

Fiscal year 2011 (FY 2011) was the first in the current five year experience study cycle. The August 2010 report based on experience studies for the period April 1, 2005 through March 31, 2010 recommended changes in virtually all of the assumptions. This year's report displays the FY 2011 experience and, as is customary in interim reports, recommends that the current assumptions be maintained.

Summary of Assumptions

Assumption	Current
Inflation/COLA	2.7 %
Investment Return	7.5 %
ERS Salary Scale	4.9 % Indexed by Service
PFRS Salary Scale	6.0 % Indexed by Service
Asset Valuation Method	5 Year Level Smoothing
Pensioner Mortality	Gender/Collar Specific Tables based upon FY 2006-2010 experience with Society Of Actuaries Scale AA loading for mortality improvement.
Active Member Decrements	Based upon FY 2006-2010 experience

This recommendation has been shared with the Systems' outside Actuarial Advisory Committee for their review and comment. This Committee is composed of senior actuaries from major insurance companies.

In addition to oversight provided by the Actuarial Advisory Committee, the Systems' actuaries and their work are periodically reviewed by a number of organizations, including the Systems' financial statement auditors, internal auditors of the Office of the State Comptroller, the New York State Insurance Department, and a quinquennial review by an external actuarial firm. The most recent review by an external firm was completed in March 2008 by Buck Consultants, LLC.

The reviewed and finalized actuarial assumptions will be presented to Comptroller, Thomas P. DiNapoli, for certification and will be used in developing employer contribution rates (payable on 2/1/2013) for the many different plans covered by the Employees Retirement System (ERS) and the Police and Fire Retirement System (PFRS).

II. Economic Assumptions

A. Inflation (CPI-U) and the Cost of Living Adjustment (COLA)

The table below displays the applicable CPI-U data:

	CPI-U
3/31/2011	223.467
3/31/2010	217.631
Increase	2.68%

As a result, there will be a —— = 1.34% rounded up to 1.4% COLA applied in September of 2011, which matches the current assumption.

B. Investment Rate of Return (Discount Rate)

The FY 2011 investment rate of return, as reported by the Division of Investment and Cash Management, is 14.57%. This is considerably higher than the 7.50% assumption, but should be interpreted with caution.

The price of the sale/purchase of any item reflects the value of both the item and the currency. If the share price of a stock doubles from $10 to $20 in a year, we tend to conclude that the perceived value of the share doubled. It may be that the perceived value of the currency halved. The reality is a combination of the two with most of the change, most of the time, due to share value.

It is possible that a larger than usual portion of the FY 2011 investment return is due to dollar devaluation. There is reason to suspect that recent Federal Reserve policy has support of asset prices as one of its goals. Thus I do not believe that the strong market performance of FY 2011 undermines the recent decision to drop the assumed investment rate of return from 8.00% to 7.50%.

Further, as stated in the last report, the high cost of oil (averaging $71.21 per barrel in 2010[1]) and government (averaging 35.0% of GDP in 2010[2]) continue to create a headwind, potentially prolonged, that the markets must overcome.

[1] http://inflationdata.com/inflation/inflation_rate/historical_oil_prices_table.asp

[2] http://www.gpoaccess.gov/usbudget/fy12/xls/BUDGET-2012-TAB-15-3.xls

Last autumn I began developing a more mature methodology for determining a best estimate range for the investment return assumption. Common to the method used in the previous report is the belief that a fund's asset allocation (mix of stocks and bonds) is the most relevant characteristic for determining the fund's expected investment income. However, the developing methodology uses stochastic simulations with forward looking asset class capital market assumptions, as opposed to a less rigorous calculation using general historical returns for equities and fixed income.

The goal is to develop a best estimate range for the investment rate of return over a 30 year period. Each stochastic simulation represents one year's performance. Groupings of 30 simulations provide an annualized return over a 30 year period. Multiple groups of 30 provide a range of annualized returns over a 30 year period.

Given a set of capital market assumptions developed by one of the fund's external investment consultants, and, after adjusting for investment expenses, the best estimate range (defined as the 25th percentile to the 75th percentile) for the investment rate of return over a 30 year period based upon 5,000 thirty year groupings is 5.39% to 8.05%.

The actuarial assumed rate of return of 7.50% is exceeded in 34.6% of the thirty year groupings.

This new methodology requires further review, but these initial results support the recent 0.5% reduction. Looking ahead toward the next five year study, absent future adjustments in the asset allocation and/or capital market assumptions, it seems more likely that the Actuary will be considering a reduction in the assumed investment rate of return than an increase.

C. Salary Scales

The table below displays the actual and expected salary increases for full-time employees.

	Actual	Expected	A/E
ERS	4.279%	4.860%	0.8804
PFRS	6.411%	5.745%	1.1161
Combined	4.533%	4.966%	0.9129

Note that the expected salary scale for FY 2011 in PFRS was 5.745% (which differs from the stated assumed value of 6.0%). This is because there was a slight shift in the demographics of the PFRS population, namely a smaller percentage of employees at the lower service levels, which have the higher salary growth assumptions.

When reducing an indexed salary scale to one number, the result is only a constant insofar as the demographics of the group remain constant. Indexing by service is more sensitive to demographic shifts than indexing by age as the former has a larger range in salary growth assumptions.

III. Asset Valuation Method

The gap between the actuarial value of assets (AVA) and the market value of assets (MVA) continues to decline. The values since FY2001 are given below (in billions):

Market Value v. Actuarial Value of Assets

FY	MVA*	AVA			MVA*	AVA
2001	$114.0	$119.4		2006	$142.6	$132.0
2002	112.7	125.1		2007	156.5	142.5
2003	97.3	106.6		2008	155.8	151.7
2004**	120.8	117.4		2009	110.9	148.9
2005	128.0	123.7		2010	134.2	147.7
				2011	149.5	148.6

* Invested Assets + Receivables (i.e. Plan Net Assets for benefits)
[both the MVA & AVA exclude funds for group term life insurance]
** The equity smoothing was ‘restarted’; MVA > AVA as the market value of the fixed income portfolio exceeded the amortized cost.

IV. Demographic Assumptions

A. Pensioner Mortality

The table below provides the FY 2011 annual option 0 pension mortality experience (in millions).

Annual Option 0 Pension Termination (in millions)

	Male			Female		
	Actual	Expected	A/E	Actual	Expected	A/E
ERS Clerk (White Collar) Service Retirements	52.375	50.069	1.046	40.633	42.670	0.952
ERS Laborer (Blue Collar) Service Retirements	28.237	28.825	0.980	5.162	5.379	0.960
ERS Disability Retirements	6.789	6.051	1.122	3.721	3.713	1.002
Beneficiaries (uses actual pension received)	1.081	0.850	1.272	8.579	8.923	0.962
	Service			Disability		
	Actual	Expected	A/E	Actual	Expected	A/E
PFRS Retirements	13.746	14.055	0.978	2.291	2.357	0.972

B. Active Member Decrements

The table below provides actual and expected values for various decrements.

Decrement	Actual	Expected	A/E
ERS Withdrawals 0 ≤ Srv < 2	10,516	9,872	1.065
ERS Withdrawals 2 ≤ Srv < 3	2,590	2,876	0.900
ERS Withdrawals 3 ≤ Srv < 4	1,645	2,163	0.760
ERS Withdrawals 4 ≤ Srv < 5	1,180	1,446	0.816
ERS Withdrawals 5 ≤ Srv < 10	2,418	2,873	0.845
ERS Withdrawals 10 ≤ Service	1,793	2,186	0.820
PFRS Withdrawals	309	290	1.065
ERS Accidental Deaths	1	~5	0.193
ERS Ordinary Deaths	721	678	1.063
PFRS Accidental Deaths	5	~3	1.999
PFRS Ordinary Deaths	27	~19	1.435
ERS Accidental Disability	6	~13	0.465
ERS Ordinary Disability	436	462	0.944
PFRS Accidental Disability	92	97.196	0.947
PFRS Ordinary Disability	9	~5	1.763
PFRS IPOD Disability	80	~61	1.304
ERS T-1 Reg Plan Srv Ret 0 ≤ Srv < 20	310	304	1.019
* ERS T-1 Reg Plan Srv Ret 20 ≤ Srv < 30	560	409	1.368
* ERS T-1 Reg Plan Srv Ret 30 ≤ Service	2,686	1,228	2.188
ERS T-2,3,4 Reg Plan Srv Ret 0 ≤ Srv < 20	4,348	4,097	1.061
* ERS T-2,3,4 Reg Plan Srv Ret 20 ≤ Srv < 30	7,195	4,303	1.672
* ERS T-2,3,4 Reg Plan Srv Ret 30 ≤ Service	7,743	3,788	2.044
ERS State T-1,2 Correction Officer Srv Ret	45	~45	1.002
ERS State T-3 Correction Officer Srv Ret	549	550	0.999
ERS County Correction Officer Srv Ret	202	142	1.424
PFRS 20 Year Plan Srv Ret	250	280	0.894
PFRS 20 Year Plan w add'l 60ths Srv Ret	545	466	1.169
PFRS State Police 20 Year Plan Srv Ret	121	117	1.034

* The ERS retirement incentive resulted in an earlier harvest of near-term retirees.

V. Effect on Contributions

The table below summarizes the average employer contribution rates for the most recent valuations.

Valuation	Local Employer Billing Date	ERS	PFRS	Total Employer Contributions
4/1/2005	2/1/2007	10.7%	17.0%	$2.7b
4/1/2006	2/1/2008	9.6%	16.6%	$2.6b
4/1/2007	2/1/2009	8.5%	15.8%	$2.5b
4/1/2008	2/1/2010	7.3%	15.1%	$2.3b
4/1/2009	2/1/2011	11.9%	18.2%	$3.6b
4/1/2010	2/1/2012	16.3%	21.6%	$4.9b
4/1/2011	**2/1/2013**	**18.9%**	**25.8%**	**$5.5b**

The ERS absolute increase of 2.6% is less than the 4.6% and 4.4% increases over the last two years as unlike last year, this strong investment year was not partially offset by more conservative assumptions, and the salary scale experience has dropped from 5.5% in 2009 and 4.7% in 2010 to 4.3% in 2011.

The PFRS absolute increase of 4.2% is more than the 3.1% and 3.4% increases over the last two years as the salary scale experience has increased from 3.2% in 2009 and 5.8% in 2010 to 6.4% in 2011.

The employer contribution increase of $0.6b is less than the $1.3b increases of the last two years due to the smaller ERS rate increase and an anticipated reduction in the salary base.

VI. Summary of Recommendations

I recommend that the current assumptions be maintained.

This recommendation was reviewed and approved by the Actuarial Advisory Committee in a meeting on July 14, 2011. The final recommendation will be submitted to the State Comptroller, Thomas P. DiNapoli, pursuant to Section 11 of the Retirement and Social Security law.