



*University of Puerto Rico
Retirement System*

**Actuarial Valuation Report
as of
June 30, 2007**

December 31, 2007

**Buck Consultants, LLC
Puerto Rico Branch**

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December 31, 2007

Board of Trustees & Retirement Board
University of Puerto Rico
Avenida Muñoz Rivera 654
Edificio Plaza 654, 16th Floor
Hato Rey, Puerto Rico 00919

Re: University of Puerto Rico Retirement System / Actuarial Valuation as of June 30, 2007

Dear Board Members:

This report presents the results of the actuarial valuation of the University of Puerto Rico Retirement System (the “**Retirement System**” or the “**System**”) as of June 30, 2007. This is the fourth actuarial valuation prepared by Buck Consultants, LLC (“**Buck Consultants**” or “**Buck**”). The purpose of this report is to:

- ☐ determine the employer contribution required to fund the Retirement System on a sound actuarial basis,
- ☐ provide a summary of the funded status of the System, and
- ☐ present the financial statement disclosure information according to GASB 25 and 27.

Amendments and Other Changes Affecting the Financial Status of the System

There were no amendments or changes to the benefit provisions employed by the Retirement System that affected its financial status for the year ending on the valuation date. All methods and assumptions employed to develop the results presented herein remain unchanged from the previous valuation. A summary of the assumptions and methods and the System benefit provisions reflected in the valuation are presented in tables X and XI respectively.

Discussion of Valuation Results

The actuarial valuation as of June 30, 2007 indicates that an expected employer contribution of **\$56,136,658** (a rate of **10.9%** of payroll) is required to meet the employer normal cost and to amortize the Unfunded Actuarial Accrued Liability over 30 years from July 1, 2007. The table below presents the Employer Costs, Annual Required Contribution (ARC) Rates and amounts,



the employer cash contributions effected, and the Annual Pension Costs under GASB 27 for the years ending June 30 2007 and 2008.

	Year Ended 06/30/07	Year Ended 06/30/08
Employer Costs	\$53,643,748	\$56,136,658
ARC (payroll) Rate	11.1%	10.9%
Annual Required Contribution (ARC)	\$57,524,263	To be Determined
Employer Cash Contribution	\$78,310,774	To be Determined
Annual Pension Costs (GASB 27)	\$57,737,197	To be Determined

Even though the ARC rate decreased slightly from 11.1% to 10.9%, the increase in Employer Costs from last year's valuation is due mostly to an increase in the average salary higher than expected (\$38,514 last year versus \$40,915 this year) and a corresponding increase in the participant payroll from \$484,886,628 last year to \$513,486,180 this year.

Contents of the Report

The development of the Employer Cost and the Annual Required Contribution (ARC) for the year ending on June 30, 2008 is presented in Table II. The development of the Annual Required Contribution amount and the accounting disclosures required by GASB Statement 25 as well as the determination of the Annual Pension Cost requested by GASB Statement 27 is presented in Table III. A three-year pension cost trend information is also included on Table III.

Tables IV through VII provide a summary of the participant population, including a breakdown by status (active, retired, deferred vested) and a variety of useful information such as historical average age, service, and salary, a distribution of active participants by Certification number as well as an age-service distribution of active participants with average pay in each respective age-service bracket.

Tables VIII and IX include a breakdown of the System's assets by investment category, a reconciliation of the market value of assets from beginning to the end of the fiscal year, the development of the Actuarial Value of Assets, and the historical asset yields from 1996 to the valuation date.



Finally, table X sets forth all the actuarial assumptions and methods that were used to perform the valuation, and table XI sets forth the System provisions that have been used in determining the liabilities presented in this report.

Certification

To the best of my knowledge, this report fairly and accurately presents the liabilities of the System as of June 30, 2007, based on the participant data and asset information provided by the System's Administrator, and the Retirement System benefit provisions and actuarial assumptions and methods set forth herein. All known events or trends that may require a material increase in System costs or required contribution rates have been taken into account in the valuation.

Respectfully submitted,

Héctor D. Gaitán, FCA, ASA, MAAA
Office Manager & Consulting Actuary

cc: José A. Lázaro

Summary of Valuation Results

TABLE I

	As of June 30, 2006	As of June 30, 2007
1. Number of Members		
a. Active Participants	12,590	12,550
b. Deferred Vested Participants	361	369
c. Retirees and Beneficiaries:	6,508	6,656
d. Total Participants	19,459	19,575
e. Non-Vested Participants Entitled to Refund of Own Contributions	7,144	7,188
2. Total Annual Rate of Covered Payroll	\$ 484,886,628	\$ 513,486,180
3. Active Participant Statistics		
a. Average Attained Age	46.15	46.53
b. Average Years of Service	15.12	15.38
c. Average Annual Salary	\$ 38,514	\$ 40,915
4. Expected Employee Contributions	\$ 31,410,668	\$ 32,909,591
5. Total Annual Retired Members Benefits	\$ 103,916,819	\$ 112,901,102
6. Annual Normal Cost	\$ 30,973,212	\$ 32,193,505
7. Unfunded Actuarial Liability		
a. Actuarial Accrued Liability	\$ 1,930,131,983	\$ 2,068,102,695
b. Actuarial Value of Assets	(869,211,000)	(953,197,000)
c. Unfunded Actuarial Accrued Liability	\$ 1,060,920,983	\$ 1,114,905,695
8. Assets		
a. Market Value of Assets	\$ 869,349,262	\$ 1,002,117,490
b. Actuarial Value of Assets	\$ 869,211,000	\$ 953,197,000
9. Employer Cost	\$ 53,643,748	\$ 56,136,658
10. Annual Required Contribution (ARC) Rate ⁽¹⁾	11.1%	10.9%
11. Annual Pension Cost (GASB 27)	\$ 56,160,455	\$ 57,737,197

(1) ARC Rate for each fiscal year comes from actuarial valuation at start of that fiscal year (e.g., the June 30, 2007 Annual Required Contribution was established in the June 30, 2006 actuarial valuation).

Employer Cost / Annual Required Contribution (ARC) Rate TABLE II

	As of June 30, 2006	As of June 30, 2007
1. Number of Members		
a. Active Participants	12,590	12,550
b. Deferred Vested Participants	361	369
c. Retirees and Beneficiaries	6,508	6,656
d. Total Members	<u>19,459</u>	<u>19,575</u>
e. Non-Vested Participants Entitled to Refund of Own Contributions	7,144	7,188
2. Total Annual Earnings	\$ 484,886,628	\$ 513,486,180
3. Actuarial Accrued Liability		
a. Retirees and Beneficiaries	\$ 822,698,398	\$ 890,879,551
b. Terminated Participants ⁽¹⁾	26,180,102	28,199,382
c. Active Participants	1,081,253,483	1,149,023,762
d. Total	<u>\$ 1,930,131,983</u>	<u>\$ 2,068,102,695</u>
4. Actuarial Value of Assets	\$ 869,211,000	\$ 953,197,000
5. Unfunded Accrued Liability (Item 3.d. - Item 4.)	\$ 1,060,920,983	\$ 1,114,905,695
6. Amortization of Unfunded Accrued Liability ⁽²⁾	\$ 51,656,771	\$ 54,285,313
7. Annual Normal Cost	\$ 30,973,212	\$ 32,193,505
8. Administrative Expenses	\$ 2,424,433	\$ 2,567,431
9. Total (Gross) Contribution (Item 6. + Item 7. + Item 8.)	\$ 85,054,416	\$ 89,046,249
10. Expected Employee Contributions	\$ 31,410,668	\$ 32,909,591
11. Employer Cost (Item 9. - Item 10.)	<u>\$ 53,643,748</u>	<u>\$ 56,136,658</u>
12. (ARC) Rate as a Percentage of Total Earnings ⁽³⁾ (Item 11. / Item 2.)	<u>11.1%</u>	<u>10.9%</u>

(1) Includes \$9,903,314 of accumulated contributions for non-vested participants at 06/30/06 and \$10,211,328 at 06/30/07.

(2) Amortization changed to Level Percentage of Payroll effective with the June 30, 2005 actuarial valuation with an open amortization period of 30 years.

(3) ARC Rate for each fiscal year comes from actuarial valuation at start of that fiscal year (e.g., the June 30, 2006 ARC Rate determines the Annual Required Contribution Amount for the fiscal year ending June 30, 2007).

	As of June 30, 2006	As of June 30, 2007
1. Annual Required Contribution (ARC) ⁽¹⁾		
a. ARC Rate ⁽¹⁾	11.3%	11.1%
b. Actual Payroll	\$ 490,262,657	\$ 518,236,607
c. Annual Required Contribution Item (a) * Item (b)	<u>\$ 55,399,680</u>	<u>\$ 57,524,263</u>
2. Annual Pension Cost and Net Pension Obligation (NPO)		
a. Annual Required Contribution (ARC)	\$ 55,399,680	\$ 57,524,263
b. Interest on NPO	1,943,884	544,074
c. Adjustment to ARC	<u>(1,183,109)</u>	<u>(331,140)</u>
d. Annual Pension Cost	\$ 56,160,455	\$ 57,737,197
e. Contributions made	<u>(73,658,083)</u>	<u>(78,310,774)</u>
f. Increase (decrease) in NPO	<u>(17,497,628)</u>	<u>(20,573,577)</u>
g. NPO (beginning of the year)	\$ 24,298,553	\$ 6,800,925
h. NPO (end of the year)	<u>\$ 6,800,925</u>	<u>\$ (13,772,652)</u>

(1) ARC Rate for each fiscal year comes from actuarial valuation at start of that fiscal year (e.g., the June 30, 2006 ARC Rate determines the Annual Required Contribution Amount for the fiscal year ending June 30, 2007).

3. Schedule of Employer Contributions

Year Ended June 30	Required Contribution as a Percentage of Payroll for Year Ended ⁽¹⁾	Actual Payroll	Annual Required Contribution (ARC)	Employer Contribution Made	Percentage Contributed	(Excess)/ Deficiency
2007	11.1%	\$ 518,236,607	\$ 57,524,263	\$78,310,774	136.1%	\$ (20,786,511)
2006	11.3%	490,262,657	55,399,680	73,658,083	133.0%	(18,258,403)
2005	18.4%	460,174,370	84,672,084	69,291,395	81.8%	15,380,689
2004	16.2%	433,607,194	70,244,365	61,376,007	87.4%	8,868,358
2003	16.1%	407,357,391	65,584,540	57,551,270	87.8%	8,033,270
2002	14.0%	387,508,328	54,251,166	52,326,004	96.5%	1,925,162
2001	11.0%	376,992,691	41,469,196	54,040,933	130.3%	(12,571,737)
2000	12.6%	348,397,129	43,898,038	49,651,679	113.1%	(5,753,641)
1999	11.7%	330,179,269	38,630,974	53,041,795	137.3%	(14,410,821)
1998	12.3%	327,884,351	40,329,775	48,856,041	121.1%	(8,526,266)
1997	14.0%	311,025,104	43,543,515	46,600,524	107.0%	(3,057,009)
1996	14.6%	280,144,023	40,901,027	41,516,818	101.5%	(615,791)
1995	14.8%	261,613,882	38,718,855	36,479,385	94.2%	2,239,470
1994	14.8%	245,096,878	36,274,338	34,145,484	94.1%	2,128,854
1993	14.3%	232,505,968	33,248,353	32,399,088	97.4%	849,265
1992	14.3%	231,818,990	33,150,116	29,581,402	89.2%	3,568,714
1991	14.3%	213,752,919	30,566,667	25,828,085	84.5%	4,738,582

(1) ARC Rate for each fiscal year comes from actuarial valuation at start of that fiscal year (e.g., the June 30, 2007 Required Contribution was established in the June 30, 2006 actuarial valuation).

4. Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability - Entry Age (AAL) (b)	Unfunded AAL (not < 0) (UAAL) (b) - (a)	Funded Ratio (a)/(b)	Covered Payroll (c)	UAAL as % of Covered Payroll [(b) - (a)]/(c)
6/30/2007	\$ 953,197,000	\$ 2,068,102,695	\$ 1,114,905,695	46.1%	\$ 513,486,180	217.1%
6/30/2006	869,211,000	1,930,131,983	1,060,920,983	45.0%	484,886,628	218.8%
6/30/2005	820,501,000	1,848,175,710	1,027,674,710	44.4%	460,956,060	222.9%
6/30/2004	803,498,000	1,748,529,453	945,031,453	46.0%	431,942,112	218.8%
6/30/2003	778,265,000	1,594,436,193	816,171,193	48.8%	405,855,271	201.1%
6/30/2002	640,406,669	1,546,249,360	905,842,691	41.4%	390,192,418	232.2%
6/30/2001	686,067,220	1,311,021,235	624,954,015	52.3%	363,995,029	171.7%
6/30/2000	753,863,676	1,212,559,037	458,695,361	62.2%	341,871,667	134.2%
6/30/1999	650,294,843	1,161,100,932	510,806,089	56.0%	333,153,432	153.3%
6/30/1998	586,095,318	1,037,281,510	451,186,192	56.5%	322,232,048	140.0%
6/30/1997	505,466,931	957,716,124	452,249,193	52.8%	305,498,420	148.0%
6/30/1996	427,435,099	912,242,254	484,807,155	46.9%	283,798,140	170.8%
6/30/1995	382,934,691	856,494,515	473,559,824	44.7%	261,466,451	181.1%
6/30/1994	N/A	N/A	N/A	N/A	N/A	N/A
6/30/1993	343,302,357	748,243,399	404,941,042	45.9%	221,986,837	182.4%
6/30/1992	N/A	N/A	N/A	N/A	N/A	N/A
6/30/1991	280,341,508	646,980,619	366,639,111	43.3%	209,377,144	175.1%

Accounting Disclosures (GASB 25/27)

TABLE III

(continued)

5. Three-Year Pension Cost Trend Information

Fiscal Year Ending	Annual Pension Cost (APC)	Employer Contribution	Percentage of APC Contributed	Net Pension Obligation (NPO)
06/30/07	\$ 57,737,197	\$ 78,310,774	135.6%	\$ (13,772,652)
06/30/06	56,160,455	73,658,083	131.2%	6,800,925
06/30/05	84,657,964	69,291,395	81.8%	24,298,553

6. Additional Information

Valuation date:

Actuarial cost method:

Amortization method:

Remaining amortization period:

Asset valuation method:

06/30/2007

Entry Age Normal (Traditional)

Level Percentage of Payroll

30-year constant (open basis)

Market Value adjusted to reflect investment gains and losses over a five (5) year period. See Tables VIII and X for a more detailed explanation of Actuarial Value of Assets methodology.

Actuarial assumptions:

Investment rate of return*

Projected salary increases*

Post-retirement benefit increases

8.00%

5.00%

Other than the automatic increase of 3.00% every two (2) years applicable to salary cap of Certification 139,

NO postretirement benefit increases are assumed.

1994 Group Annuity Mortality

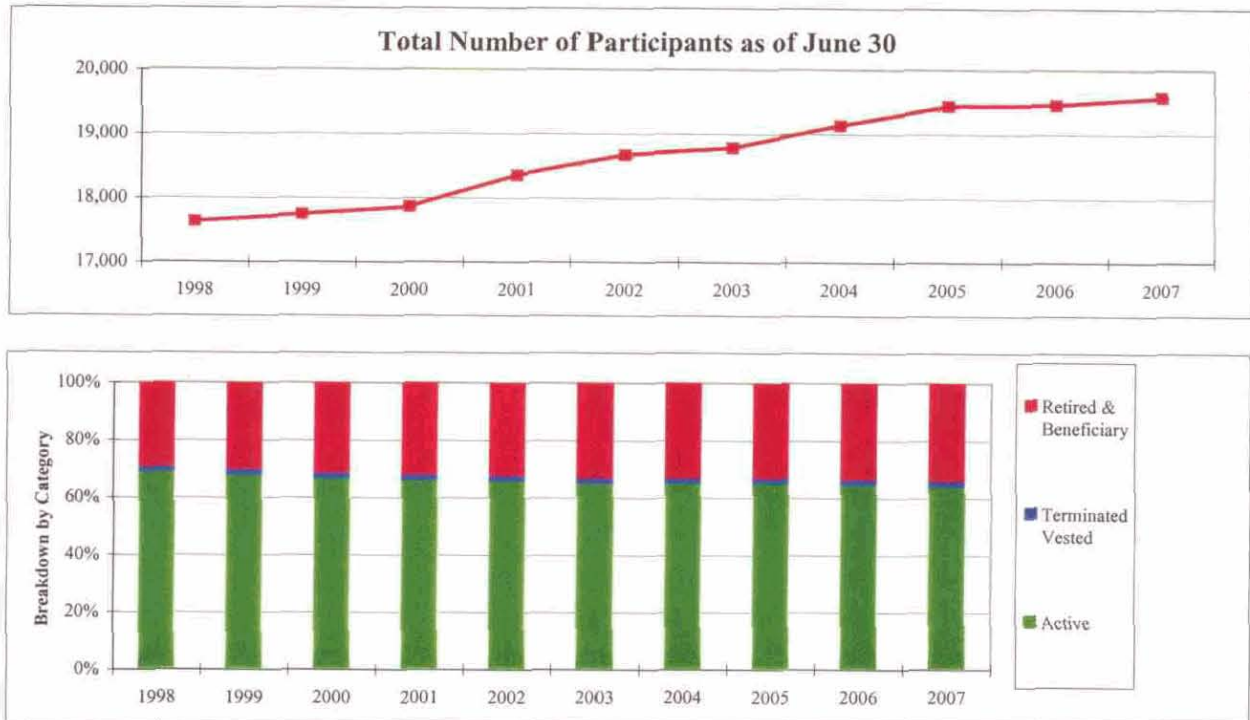
Mortality Table

*Includes inflation at

3.50%

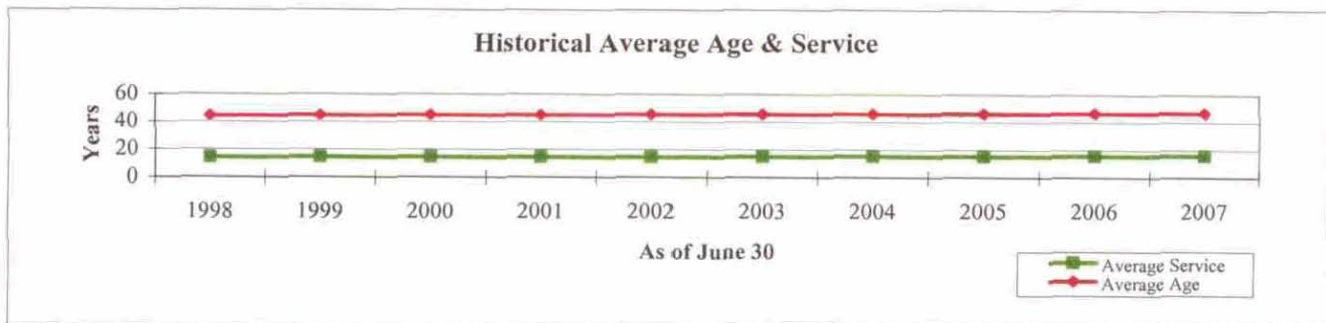
Summary of Participant Data

TABLE IV



	As of June 30, 2006	As of June 30, 2007
1. Active Participants		
a. Actively employed		
i. Fully vested	7,952	8,098
ii. Non-vested	4,638	4,452
b. Sub-total	12,590	12,550
2. Terminated Vested Participants⁽¹⁾	361	369
3. Retired Participants		
a. Non-disabled	5,236	5,398
b. Disabled	1,195	1,175
c. Beneficiaries	77	83
d. Sub-total	6,508	6,656
4. Total Participants	19,459	19,575

(1) Excludes 7,144 and 7,188 non-vested terminated employees as of June 30, 2006 and 2007 respectively who are entitled to a refund of their own contributions. 48 Employees on Leave of Absence at 06/30/07 are also excluded.



Date	Average Service Earned	Average Attained Age	Date	Average Service Earned	Average Attained Age
06/30/98	13.80	44.00	06/30/03	14.43	45.38
06/30/99	14.00	44.46	06/30/04	14.62	45.51
06/30/00	14.10	44.58	06/30/05	14.76	45.72
06/30/01	13.95	44.65	06/30/06	15.12	46.15
06/30/02	14.11	44.95	06/30/07	15.38	46.53



Date	Average Salary Rate	Date	Average Salary Rate
06/30/98	\$26,449	06/30/03	\$33,150
06/30/99	\$27,593	06/30/04	\$34,600
06/30/00	\$28,709	06/30/05	\$36,362
06/30/01	\$30,000	06/30/06	\$38,514
06/30/02	\$31,702	06/30/07	\$40,915

**DISTRIBUTION OF ACTIVE PARTICIPANTS
BY PENSION ELEGIBILITY, CONTRIBUTORY MAXIMUM, AND PLAN TYPE**

<u>Pension Elegibility Certification</u>	<u>Contributory Maximum Certification</u>	<u>Employee Contribution Wage Base</u>	<u>Plan Type</u>	<u>Participant Count @ 06/30/06</u>	<u>Participant Count @ 06/30/07</u>
Cert #7	Cert #7	None	Coordinated	14	12
Cert #55	Cert #55	\$35,000	Coordinated	351	301
Cert #37	Cert #37	\$35,000	Coordinated	1836	1702
Cert #55	Cert #55	\$35,000	Supplemented	1417	1286
Cert #7	Cert #7	None	Supplemented	3	2
Cert #55	Cert #55	\$35,000	Supplemented	2590	2436
Cert #37	Cert #94	\$50,000	Coordinated	193	191
Cert #55	Cert #94	\$50,000	Supplemented	4313	4496
Cert #55	Cert #94	\$50,000	Coordinated	123	116
Cert #37	Cert #139 *	\$63,654	Coordinated	216	217
Cert #55	Cert #139 *	\$63,654	Coordinated	40	42
Cert #55	Cert #139 *	\$63,654	Supplemented	1494	1749
Total:				<u>12,590</u>	<u>12,550</u>

* Certification 139 increases by 3.00% every two years. The 2008 limit will be \$65,564.

Age-Service Distribution (all active participants)

TABLE VII

Attained Age	Completed Years of Service as of June 30, 2007										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	
Under 25	37	85	3								125
Avg.Pay	15,342	17,541	21,200								16,978
25 to 29	53	477	192	3							725
Avg.Pay	19,919	22,490	23,509	24,980							22,582
30 to 34	42	429	510	217	5						1,203
Avg.Pay	23,870	31,882	28,568	28,077	28,704						29,498
35 to 39	28	346	469	461	119	4					1,427
Avg.Pay	26,960	36,015	36,501	33,336	32,106	32,160					34,795
40 to 44	29	236	416	501	482	182	10				1,856
Avg.Pay	30,223	33,598	39,151	41,187	38,375	37,935	32,826				38,500
45 to 49	18	176	278	435	470	543	262	16			2,198
Avg.Pay	31,078	33,650	37,362	45,145	46,246	42,763	38,718	34,573			41,929
50 to 54	11	118	200	268	313	461	636	274	13		2,294
Avg.Pay	23,900	38,676	39,379	45,547	51,130	52,195	46,384	41,756	37,283		46,382
55 to 59	1	79	124	154	187	255	378	306	113	2	1,599
Avg.Pay	189,996	37,424	41,328	43,854	47,015	53,684	56,410	51,729	46,001	37,080	49,988
60 to 64	3	26	38	69	91	122	166	111	100	24	750
Avg.Pay	30,480	41,349	38,007	43,808	43,305	52,815	54,290	58,482	59,056	54,738	51,654
65 to 69	1	7	7	17	30	49	54	36	30	26	257
Avg.Pay	20,940	34,202	48,439	46,497	44,120	54,545	51,834	62,753	66,600	71,312	55,628
70 & up		4	9	2	8	14	21	14	11	33	116
Avg. Pay		40,443	41,099	62,652	53,495	47,928	56,565	54,251	65,963	73,964	59,222
Total	223	1,983	2,246	2,127	1,705	1,630	1,527	757	267	85	12,550
Avg.Pay	24,134	30,865	34,770	39,825	43,803	47,725	48,654	49,318	53,603	66,856	40,915

Market and Actuarial Value of Assets

TABLE VIII

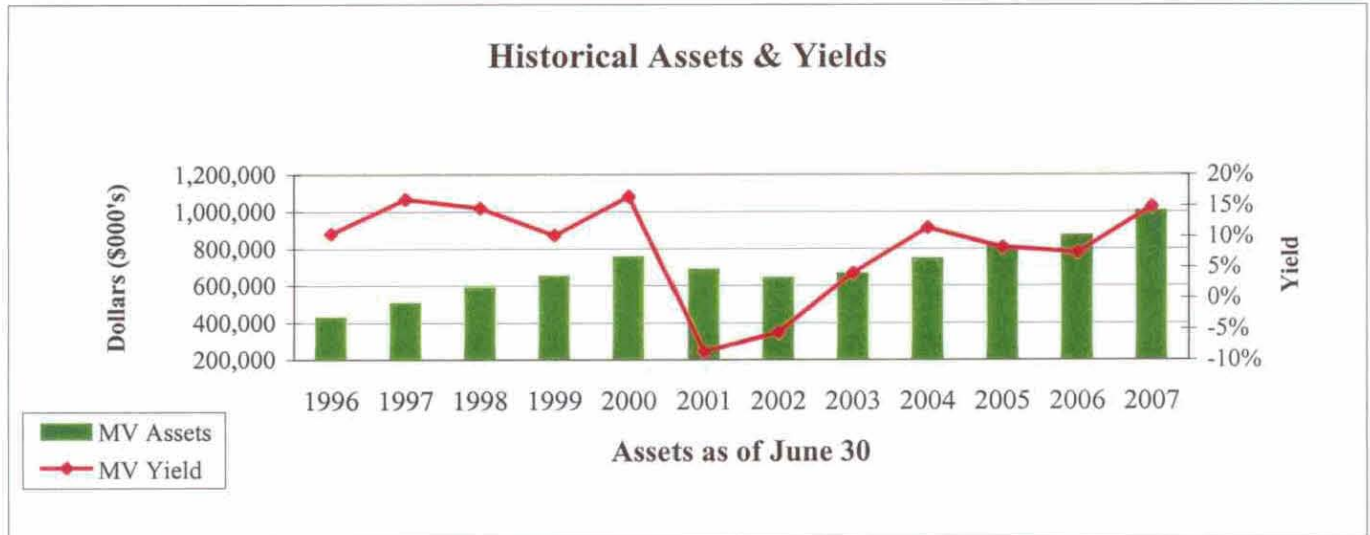
	As of June 30, 2006		As of June 30, 2007	
1. Market Value of Assets				
		%		%
a. Cash and cash equivalents	\$35,426,193	4.1%	\$35,614,758	3.5%
b. Government securities	167,890,454	19.2%	56,707,376	5.5%
c. Corporate bonds and notes	39,784,698	4.6%	101,654,406	9.9%
d. Equities	214,742,843	24.6%	255,115,821	24.9%
e. Foreign stocks and bonds	80,166,809	9.2%	120,231,338	11.7%
f. Mutual funds	194,641,649	22.3%	233,599,815	22.8%
g. Property and equipment	1,355,251	0.2%	1,324,991	0.1%
h. Mortgages/loans to plan members	139,901,068	16.0%	220,728,551	21.5%
i. Other assets	113,200	0.0%	80,100	0.0%
j. Other investments	785,917	0.1%	679,161	0.1%
k. Market value of assets	<u>\$874,808,082</u>	100.0%	<u>\$1,025,736,317</u>	100.0%
l. Contribution receivable / receivables	7,810,504		15,601,066	
m. Other payable	<u>(13,269,324)</u>		<u>(39,219,893)</u>	
n. Market value of assets	\$869,349,262		\$1,002,117,490	
2. Reconciliation of Market Value of Assets				
a. Market Value as of June 30, 2006			\$869,349,262	
b. Income:				
Employer contribution	\$78,310,774			
Employee contributions	40,029,937			
Net appreciation (depreciation)				
in fair value of investments	104,569,678			
Interest and dividends	26,678,900			
Other / Med. ins. Reimb., 3% Pens. Reimb.	<u>8,196,843</u>			
			\$257,786,132	
c. Disbursements:				
Benefit payments	\$110,831,424			
Administrative Expenses	3,443,069			
Investment Expenses	2,546,568			
Other / Medical insurance reimbursements	<u>8,196,843</u>			
			\$125,017,904	
d. Market Value as of June 30, 2007			<u>\$1,002,117,490</u>	

Market and Actuarial Value of Assets

TABLE VIII

(continued)

	(\$ Thousands) As of June 30, 2006	(\$ Thousands) As of June 30, 2007
3. Determination of Asset Gain / (Loss)		
a. Market value of assets at beginning of year	\$ 806,229	\$ 869,349
b. Employer contributions	73,658	78,311
c. Employee contributions	38,710	40,030
d. Administrative expenses	(3,263)	(3,443)
e. Benefit payments	(105,090)	(110,831)
f. Expected earnings (at 8.00%)	64,659	69,711
g. Expected Assets at end of year: (a) + (b) + (c) + (d) + (e) + (f) =	\$ 874,903	\$ 943,127
h. Actual market value of assets at end of year	\$ 869,349	\$ 1,002,117
i. Asset gain / (loss) for the year: (h) - (g)	\$ (5,554)	\$ 58,990
4. Actuarial Value of Assets		
a. Gains & (losses) for year ending June 30		
i. 2003	\$ (26,301) x 1/5 =	\$ (5,260) N/A
ii. 2004	22,515 x 2/5 =	9,006 x 1/5 = \$ 4,503
iii. 2005	1,392 x 3/5 =	835 x 2/5 = 557
iv. 2006	(5,554) x 4/5 =	(4,443) x 3/5 = (3,332)
v. 2007	58,990	N/A x 4/5 = 47,192
vi. Total unrecognized gains/(losses)	\$ 138	\$ 48,920
b. Actuarial Value of Assets <i>Item 3(h) minus Item 4(a)(vi)</i>	\$ 869,211	\$ 953,197



Plan Year	Market Value as of June 30*	Actuarial Value as of June 30*	Benefit Payments	Admin. Expenses	Employer Contributions	Employee Contributions	** MV Yield
1996	\$ 427,435	\$ 427,435	\$ 51,611	\$ 1,487	\$ 41,516	\$ 15,857	10.4%
1997	505,467	505,467	53,914	1,582	46,600	18,025	15.9%
1998	586,095	586,095	58,507	1,763	48,856	18,010	14.6%
1999	650,295	650,295	64,269	6,245	53,042	21,992	10.1%
2000	754,280	754,280	72,043	2,215	49,652	22,384	16.4%
2001	686,067	686,067	78,613	2,178	54,041	24,383	-8.7%
2002	639,813	765,329	84,455	2,105	52,326	25,894	-5.6%
2003	662,518	778,265	89,313	2,420	57,551	31,437	4.0%
2004	743,761	803,498	94,188	2,675	61,376	40,993	11.4%
2005	806,229	820,501	100,459	3,781	69,291	36,464	8.2%
2006	869,349	869,211	105,090	3,263	73,658	38,710	7.3%
2007	1,002,117	953,197	110,831	3,443	78,311	40,030	14.8%

* Including contribution receivable.

** Market value yield calculated assuming middle of the year income / outflow.

FOR THE DETERMINATION OF CONTRIBUTION AMOUNTS**1. Actuarial Cost Method**

- The Entry Age Normal Cost (traditional) method was used. Under this method the actuarial present value of all plan benefits at the entry age is summed and divided by the present value of future salaries. This ratio is multiplied by all future salaries from the valuation date forward to arrive at the present value of future normal costs and hence the entry age accrued liability and normal costs.

2. Interest Rates (Investment Earnings and Discount Rate)

8.00% per annum, net of investment expenses.

3. Administrative Expenses

0.50% of total payroll of covered employees.

4. Salary Increases

5.00% per annum.

5. Decrements

- **Pre-Retirement Mortality**

1994 Group Annuity Mortality. For purposes of benefits due to death in service, it is assumed that five percent (5.00%) of such deaths are service related. Representative values of the assumed annual rates of pre-retirement mortality among members in active service are as follows:

Age	Men	Women
20	0.051%	0.028%
25	0.066%	0.029%
30	0.080%	0.035%
35	0.085%	0.048%
40	0.107%	0.071%
45	0.158%	0.097%
50	0.258%	0.143%
55	0.442%	0.229%
60	0.798%	0.444%
64	1.294%	0.762%

- **Post-Retirement Healthy Mortality**
1994 Group Annuity Mortality Table.
- **Post-Retirement Disabled Mortality**
100% of disabled life mortality rates from Social Security Actuarial Study No. 75.
- **Disability**
Representative values of the assumed annual rates of disability among male and female members in active service are as follows (65% of the projected disabilities are assumed to be due to occupational causes):

Age	Males	Females
20	0.071%	0.035%
25	0.085%	0.049%
30	0.111%	0.085%
35	0.151%	0.134%
40	0.218%	0.200%
45	0.331%	0.298%
50	0.544%	0.469%
55	0.941%	0.762%
60	1.360%	0.930%

- **Permanent Withdrawal from Active Status**
Representative values of the assumed annual rates of withdrawal among members in active service are as follows:

Age	Rate
20	8.00%
25	7.80%
30	7.30%
35	6.40%
40	5.20%
45	4.20%
50	3.00%
55	1.90%
60	0.00%

- **Retirement**

In accordance with the following schedule:

Age at Hire	Retirement age
20 - 24	55 (58*)
25 - 29	Age at hire + 30 But not greater than 58
30 - 34	58
35 - 39	58
40 - 44	58
45 - 48	58
49 & Over	Hire age + 10
* If less than 20 years of service by July 1, 1979, did not elect Certification 55 and did not elect full supplementation	

6. Percent Married

80% of participants are presumed married for purposes of spousal benefits.

7. Assets

The actuarial value of assets is determined by adjusting the market value of assets to reflect investment gains and losses (the difference between the actual investment return and the expected investment return) during each of the last five (5) years at the rate of 20.00% per year. Expected investment return is calculated from the prior market value of assets, including receivable contributions, and weighted expected transactions.

8. Valuation Group

All employees active or on leave of absence, inactive participants with deferred benefits or entitled to return of their own contributions, retirees and beneficiaries are included in the valuation.

9. Benefit Increases (Pre and Post Retirement)

Other than the expected increase in the salary limitation of Certification 139, no postretirement benefit increase is assumed. Increases are granted from time to time and the annual required contribution is adjusted accordingly.

FOR DETERMINATION OF GASB ACCOUNTING INFORMATION

The determination of the GASB Nos. 25 and 27 accounting information has been made on the basis of the same assumptions and methods used for the determination of the funding amounts. Our actuarial valuation as of June 30, 2007 is based on the benefit provisions of the University of Puerto Rico Retirement System as of the valuation date, which are summarized in this section.

1. **Provisions applicable to those members who had completed 20 years of services by July 1, 1979:**
 - a) Service retirement annuity payable:
 - i) After 30 years of service; or
 - ii) At age 58 after 10 years of service; or
 - iii) At age 55 after 25 years of service.
 - b) Amount of service retirement annuity:
 - i) Before age 65 – member with at least 30 years of service: 75% of average compensation if age 55 at beginning date; 65% if under age 55. If member completed 30 years of service before July 1973, annuity is increased by 2% of average compensation for each year of service beyond 30 and before July 1973, but to not more than 85% of average compensation.
 - ii) Before age 65 – member with less than 30 years of service: 1.50% of average compensation per year of service for member with 20 or fewer years. Percentage increased by 0.05% for each year in excess of 20 years up to a maximum of 1.95% of average compensation per year of service. Amount reduced by ½% for each month member is under age 58 at time annuity begins.
 - iii) After age 65 – if member elected full supplementation annuity is the same as before age 65. Otherwise, annuity is reduced at age 65 by ½% of first \$350 of average compensation for each year of service up to 30 years.
 - iv) Minimum annuity: \$250 per month.
 - v) Average compensation means the average for the highest-paid 36 months of service without limit on compensation.
 - vi) Employee contributions:
 - Complete supplementation: 7.00% of compensation.
 - Coordinated: 4.00% of compensation up to \$4,200 plus 6.50% of compensation in excess of \$4,200.

2. **Provisions applicable to all members who were affected under Certification 37 and who had not completed 20 years of service by July 1, 1979 plus those members who entered the system on or after July 1, 1978 and who did not elect Certification 55 or 94 and did not elect full supplementation under Certification 54:**
- a) Service retirement annuity payable:
 - i) After 30 years of service; or
 - ii) At age 58 after 10 years of service; or
 - iii) At age 55 after 25 years of service.
 - b) Amount of service retirement annuity:
 - i) Before age 65 – member with at least 30 years of service: 75% of average compensation. Amount reduced by $\frac{1}{2}\%$ for each month member is under age 58 at time annuity begins.
 - ii) Before age 65 – member with less than 30 years of service: 1.50% of average compensation per year of service for member with 20 or fewer years. Percentage increased by 0.05% for each year in excess of 20 years up to a maximum of 1.95% of average compensation per year of service. Amount reduced by $\frac{1}{2}\%$ for each month member is under age 58 at time annuity begins.
 - iii) After age 65 – Benefit is coordinated. Annuity is reduced by $\frac{1}{2}\%$ of average compensation not in excess of the Social Security wage base in effect at retirement for each year of service up to 30 years. If member was under age 58 at beginning date, the coordination adjustment is made before application of $\frac{1}{2}\%$ reduction per month under 58.
 - iv) Minimum annuity: \$250 per month.
 - v) Average compensation means the average for the highest-paid 36 months of service, excluding that portion of compensation in any year which is in excess of \$35,000.
 - vi) Employee contributions for coordinated benefit: 5.00% of compensation up to maximum salary of \$35,000.

3. **Provision applicable to all members who were affected by Certification 37 and who had not completed 20 years of service by July 1, 1979 as well as those members who entered the system on or after July 1, 1978 and later elected Certification 55 or those who elected full supplementation under Certification 54 (but not Certification 94):**
- a) Service retirement annuity payable:
 - i) After 30 years of service; or
 - ii) At age 58 after 10 years of service; or
 - iii) At age 55 after 25 years of service.
 - b) Amount of service retirement annuity:
 - i) Before age 65 – member with at least 30 years of service: 75% of average compensation. Amount reduced by 1/3% for each month member is under age 55 at time annuity begins.
 - ii) Before age 65 – member with less than 30 years of service: 1.50% of average compensation per year of service for member with 20 or fewer years. Percentage increased by 0.05% for each year in excess of 20 years up to a maximum of 1.95% of average compensation per year of service.
 - iii) After age 65 – if member elected full supplementation, annuity is the same as before age 65. Otherwise, annuity is reduced by ½% of average compensation at time of retirement multiplied by years of service up to 30 years.
 - iv) Minimum annuity: \$250 per month.
 - v) Average compensation means the average for the highest-paid 36 months of service, excluding that portion of compensation in any year which is in excess of \$35,000.
 - vi) Employee contributions:
 - Complete supplementation: 7.00% of compensation up to compensation limit of \$35,000.
 - Coordinated: 4.00% up to \$4,200 of compensation plus 6.50% of the excess up to the compensation limit of \$35,000.

4. For those entering between January 1, 1990 and June 30, 1998 who did not elect Certification 94:

- a) Service retirement annuity payable:
 - i) After 30 years of service; or
 - ii) At age 58 after 10 years of service; or
 - iii) At age 55 after 25 years of service.
- b) Amount of service retirement annuity:
 - i) Before age 65 – member with at least 30 years of service: 75% of average compensation. Amount reduced by 1/3% for each month member is under age 55 at time annuity begins.
 - ii) Before age 65 – member with less than 30 years of service: 1.50% of average compensation per year of service for member with 20 or fewer years. Percentage increased by 0.05% for each year in excess of 20 years up to a maximum of 1.95% of average compensation per year of service.
 - iii) After age 65 – All completely supplemented.
 - iv) Minimum annuity: \$250 per month.
 - v) Average compensation means the average for the highest-paid 36 months of service, excluding that portion of compensation in any year which is in excess of \$35,000.
 - vi) Employee contributions:
 - All completely supplemented: 8.00% of compensation up to compensation limit of \$35,000.

5. Certification 94:

- a) Increase compensation up to \$50,000.
- b) Those electing coverage under the above certification agree to pay 9.00% of compensation up to \$50,000.

6. Certification 139:

- a) Increase compensation up to a \$60,000 maximum. The \$60,000 cap is increased by 3.00% every two years. The 2006 maximum compensation is \$63,654.
- b) Those electing coverage under the above certification agree to pay 11.00% of compensation up to \$60,000.

7. Disability Benefits

- a) A disability retirement annuity is payable upon:
 - i) Disability due to occupational causes, regardless of service, or
 - ii) Disability due to non-occupational causes after 10 years of service. If member is also eligible for a service retirement annuity, benefit payable is the higher of the two.
- b) Amount of disability retirement annuity:
 - i) Before age 65 – If service connected, 50% of rate of salary at retirement. If not service connected, 30% of average compensation plus additional 1.00% for each year of service over 10 (subject to a maximum of 50%).
 - ii) After age 65 – Reduced to amount payable by the applicable retirement benefit formula above. However, if post 65 retirement benefit plus Primary Social Security benefit is less than pre 65 disability benefit, then post 65 benefit is adjusted (increased) by the amount necessary to match pre 65 disability benefit.
 - iii) Minimum annuity: \$250 per month.

8. Vested Benefits

A member whose employment terminates after ten (10) years of service, and who does not withdraw his contributions, receives a retirement annuity payable beginning at age 60 based on the applicable retirement formula above.

9. Non-vested Termination Benefits

If termination of employment occurs prior to completing ten (10) years of service, member is entitled only to a refund of his / her own contributions. Refund of a member's own contributions can also be obtained after attainment of ten (10) years of service but in that event the vested benefit is forfeited.

10. Pre-retirement Death Benefits

- a) A pre-retirement death benefit is payable upon:
 - i) A service-connected death, or
 - ii) A non-service connected death.
- b) Amount of pre-retirement death benefit:
 - i) The widow of a deceased member whose death is service-connected receives an annuity of 50% of final salary, plus \$10 per month for each child under age 18 (21 if at school) or disabled. If no annuity is paid to widow, \$20 per month per eligible child. Widow receives annuity until death or remarriage. Maximum family benefit is 75% of final salary.

If there is no surviving widow or eligible children, a lump sum amount equal to the member's contributions plus one year's final salary (subject to applicable salary cap), but not less than \$6,000, will be payable to the employee's designated beneficiary.
 - ii) Should the member's death be non-service connected then a lump sum amount is paid which is equal to the member's contributions plus one year's final salary (subject to applicable salary cap) , but not less than \$6,000.

11. Post-retirement Death Benefits

Member contributions are refunded to the extent that they exceed retirement payments already made, unless a reversionary annuity was elected. Minimum payment is \$600. In addition, 50% of retirement annuity is payable to the surviving spouse until death, remarriage, or until the spouse begins to receive Social Security benefits. Minimum annuity, \$75 per month; maximum annuity, \$150 per month.

12. Reversionary Annuity

Member may elect to receive a reduced annuity in order to provide a lifetime benefit after death to a spouse or relative. The benefit to the spouse or relative may be as low as \$25 per month or as high as 100% of the member's reduced annuity. This option is not permitted if member retires on a disability annuity.

13. Christmas Bonus

A \$400 annual bonus is given to all retired participants.