

PUERTO RICO TEACHERS RETIREMENT SYSTEM

June 30, 2013 Actuarial Valuation Report

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1550 Liberty Ridge Drive
Suite 200
Wayne, PA 19087-5572

Tel +1 610 687.5644
Fax +1 610.687.4236

www.milliman.com

June 19, 2014

Ms. Wanda Santiago Lopez
Interim Executive Director
Puerto Rico Teachers Retirement System
Capital Center Building, North Tower
235 Arterial Hostos Avenue
8th Floor
San Juan, PR 00918

Dear Ms. Santiago:

This report presents the results of the actuarial valuation of the Puerto Rico Teachers Retirement System (PRTRS) as of June 30, 2013. Section I contains highlights of the valuation including a general discussion and comments on the various schedules included in the report. The subsequent Sections contain schedules summarizing the underlying calculations, asset information, participant data, plan benefits and actuarial assumptions and methods.

Purpose

The main purposes of this report are:

- to provide the Annual Required Contribution and Annual Pension Cost for the Fiscal Year ending June 30, 2014 based on relevant Statements of the Government Accounting Standards Board (GASB);
- to review the experience under the plan since the previous valuation;
- to present information pertaining to the operation of the plan for inclusion in financial statements; and
- to assess the relative funded position of the plan.

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The use of this report for purposes other than those stated above may not be appropriate and should be reviewed with Milliman.

The report was prepared solely to provide assistance to the Commonwealth of Puerto Rico Teachers Retirement System for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning PRTRS's operations, and uses PRTRS's data, which Milliman has not audited. Milliman and PRTRS do not intend to benefit and assume no duty or liability to other parties who receive this report. Milliman and PRTRS recommend that any third party recipient of this report be aided by its own actuary or other qualified professional when reviewing the Milliman report.

Data Reliance

In performing this analysis, we relied on the census data, asset information, and other information (both written and oral) provided by the System. We have not audited or verified the census data, asset information, or other information. To the extent that any of these are inaccurate or incomplete, the results of this valuation may likewise be inaccurate or incomplete.

We did not audit the data used in our analysis, but did review it for reasonableness and consistency and have not found material defects in the data. It is possible that material defects in the data would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

Future Measurements

Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as the following:

- Plan experience differing from the actuarial assumptions;
- Future changes in the actuarial assumptions;

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- Increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as potential additional contribution requirements due to changes in the plan's funded status); and,
- Changes in the plan provisions or accounting standards.

Specifically, this report does not include any of the pension reform changes included in Act 160 enacted on December 24, 2013.

Due to the limited scope of our assignment, we did not perform an analysis of the potential range of such measurements.

Certification

We hereby certify that, to the best of our knowledge, this report is complete and accurate and all costs and liabilities were determined in conformance with generally accepted actuarial principles and practices which are consistent with the Actuarial Standards of Practice promulgated by the Actuarial Standards Board and the applicable Guides to Professional Conduct, amplifying Opinions, and supporting recommendations of the American Academy of Actuaries and are based on actuarial assumptions and methods adopted by the System. All of the actuarial assumptions were developed by Milliman in consultation with PRTRS. We believe that the actuarial assumptions and methods used in this actuarial valuation are reasonable for the main purposes of this report as stated herein.

Actuarial computations presented in this report are for purposes of fulfilling financial accounting requirements under the GASB Statements 25, 27, and 45. The calculations in the enclosed report have been made on a basis consistent with our understanding of the plan provisions described in Section VI of this report, and of the applicable GASB Statements. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Qualifications

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

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Ms. Wanda Santiago Lopez
June 19, 2014
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We are members of the Society of Actuaries and meet the qualification standards of the American Academy of Actuaries to render this actuarial opinion.

Respectfully submitted,



By: Glenn D. Bowen, F.S.A.
Member American Academy of Actuaries



Katherine A. Warren, F.S.A.
Member American Academy of Actuaries

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION I – SUMMARY

A. Summary of Principal Results of June 30, 2013 Actuarial Valuation (*\$ amounts in thousands*)

	Basic System Pension <u>Benefits only</u>	System Administered <u>Pension Benefits only</u>	GASB 25 & 27 Accounting (Basic System and System Administered <u>Pension Benefits</u>)	GASB 45 Accounting (Other Postemployment <u>Benefits</u>)
Present Value of Benefits ¹	\$14,316,293	\$632,073	\$14,948,366	\$943,134
Actuarial Accrued Liability	11,655,749	596,246	12,251,995	792,875
Actuarial Value of Assets	<u>1,906,882</u>	<u>0</u>	<u>1,906,882</u>	<u>0</u>
Unfunded Actuarial Accrued Liability	9,748,867	596,246	10,345,113	792,875
Employer Normal Cost as a percent of payroll	153,455 12.29%	4,198 0.34%	157,653 12.63%	13,759 1.10%
Annual Required Contribution (ARC) as a percent of payroll	710,313 56.89%	38,256 3.06%	748,569 59.95%	46,403 3.72%
Annual Pension / OPEB Cost as a percent of payroll	N/A N/A	N/A N/A	759,532 60.83%	45,902 3.68%
Employer Contributions (<i>estimated</i>) as a percent of payroll	143,877 11.52%	49,454 3.96%	193,331 15.48%	36,192 2.90%
Portion of ARC not covered (<i>estimated</i>) as a percent of payroll	566,436 45.37%	(11,198) (0.90)%	555,238 44.47%	10,211 0.82%

¹ A discussion of the benefits included in the respective Present Value of Benefits begins on page 4 of this section.

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SECTION I – SUMMARY

	June 30, 2012 <u>Valuation</u>	June 30, 2013 <u>Valuation</u>
<i>GASB 25 & 27 Accounting (\$ amounts in thousands)</i>		
Present Value of Benefits ¹	\$15,416,237	\$14,948,366
Actuarial Accrued Liability	12,350,836	12,251,995
Actuarial Value of Assets	<u>2,099,563</u>	<u>1,906,882</u>
Unfunded Actuarial Accrued Liability	10,251,273	10,345,113
Employer Normal Cost as a percent of payroll	185,589 14.35%	157,653 12.63%
Annual Required Contribution for upcoming fiscal year as a percent of payroll	736,591 56.97%	748,569 59.95%

<i>GASB 45 Accounting (\$ amounts in thousands)</i>		
Present Value of Benefits ¹	\$954,431	\$943,134
Actuarial Accrued Liability	797,332	792,875
Actuarial Value of Assets	<u>0</u>	<u>0</u>
Unfunded Actuarial Accrued Liability	797,332	792,875
Employer Normal Cost as a percent of payroll	14,385 1.11%	13,759 1.10%
Annual Required Contribution for upcoming fiscal year as a percent of payroll	45,669 3.53%	46,403 3.72%

¹ A discussion of the benefits included in the respective Present Value of Benefits begins on page 4 of this section.

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SECTION I – SUMMARY

	June 30, 2012 <u>Valuation</u>	June 30, 2013 <u>Valuation</u>
<i>Participant Data</i>		
<u>Active Members</u>		
Number	42,707	41,553
Average Salary	\$30,275	\$30,050
Total Annual Salary	\$1,292,974,899	\$1,248,674,490
<u>Retirees</u>		
Number	31,370	33,045
Average Monthly Basic System Benefit	\$1,371	\$1,422
Average Monthly System Administered Benefit	\$66	\$60
<u>Disabled Members</u>		
Number	2,171	2,234
Average Monthly Basic System Benefit	\$475	\$501
Average Monthly System Administered Benefit	\$63	\$59
<u>Beneficiaries</u>		
Number	2,964	3,088
Average Monthly Basic System Benefit	\$390	\$404
Average Monthly System Administered Benefit	\$20	\$18
<u>Terminated Vested Members</u>		
Number	738	698
Average Monthly Basic System Benefit	\$736	\$722

Basic System Benefit and System Administered Benefit amounts shown above are for pension benefits, including minimum benefits and COLAs. Special Law "bonus" benefits are not reflected.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION I – SUMMARY

B. General Discussion

Basic System Benefits

As summarized in Section VIII, the Puerto Rico Teachers Retirement System (PRTRS) provides benefits to members, or their beneficiaries, upon:

- Retirement
- Disability
- Vested withdrawal
- Death
- Nonvested withdrawal (return of contributions)
- Christmas bonus (\$150)

Annuity benefits are subject to a \$300 monthly minimum. The statutory funding requirement for these benefits for the 2013-2014 fiscal year totals 20.5% of payroll, comprising 9.0% member and 11.5% employer contributions. Statutory funding requirements in future years will increase under Law 114 (see page 7).

These benefits will be referred to as the “Basic System Benefits” throughout this report.

System Administered Benefits

Also summarized in Section VIII are benefits granted under a series of special laws that are administered by PRTRS, including:

- Additional minimum pension benefits
- Additional minimum death benefit
- Ad-hoc cost-of-living adjustments (COLAs)
- Medical insurance plan contribution
- Summer bonus
- Medication bonus
- Christmas bonus (\$450)

These benefits are funded on a pay-as-you-go basis from the General Fund of the Commonwealth of Puerto Rico and will be referred to as “System Administered Benefits” throughout this report. These benefits are not an obligation of the PRTRS assets.

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SECTION I – SUMMARY

System Experience since Prior Valuation

The approximate actual rate of return since the prior valuation was 8.26% for 2012-2013. This asset gain served to decrease the System's unfunded actuarial accrued liability.

Our analysis of System experience from June 30, 2012 to June 30, 2013 resulted in a liability gain of \$30 million for Basic System Benefits (e.g. – the June 30, 2012 liability of \$11.73 billion was expected to increase to \$12.10 billion as of June 30, 2013, and instead increased to \$12.07 billion prior to the changes in assumptions made as of June 30, 2013).

Major sources of gains and losses are as follows:

1. \$12 million loss on new entrants and rehired active members who were not included in the June 30, 2012 valuation
2. \$9 million loss on roughly 53 “pop-up” retirees who were not in the June 30, 2012 census data
3. \$151 million loss on roughly 2,300 active members who retired since the prior valuation
4. \$169 million gain due to salary increases less than expected among active members
5. \$33 million gain from all other sources.

Further discussion is warranted on Item 3.

For Item 3, the act of retiring from active status generates a liability loss for an individual member. Possible explanations for additional liability losses attributable to individual members include purchases of service (which are offset to some extent on the asset side by the member's purchase price), retirement incentives such as Law 70, and any data clean-up that may have occurred during the benefit calculation process when the member retired.

Changes in Assumptions since Prior Valuation

This valuation reflects an increase in the interest rate assumption for GASB 25 & 27 purposes from 5.95% per year to 6.25% per year. The 6.25% assumption reflects the asset allocation for the non-loan portion of the portfolio that was adopted by the Board during December 2010 as shown below and Milliman's capital market assumptions as

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of June 30, 2013. In addition, the assumption reflects that loans to members comprise approximately 20% of the portfolio and, as provided by the System, have an approximate return of 9.2%.

Asset Class	Target Allocation
Domestic Equity	25%
International Equity	10%
Fixed Income	64%
Cash	1%

This valuation also reflects an increase in the interest rate assumption for GASB 45 purposes from 3.2% per year to 3.25% per year. The 3.25% assumption reflects Milliman's capital market assumptions as of June 30, 2013 and assumes that the Commonwealth's General Fund (the assets used to pay the GASB 45 benefits) is invested approximately in 50% cash and 50% short-term bonds.

The increase in the interest rate assumption decreased the Actuarial Accrued Liability as of June 30, 2013 for Basic System Benefits by \$0.41 billion, from \$12.07 billion to \$11.66 billion, or by 4.0%. The decrease in the ARC for Basic System Benefits was \$25 million or 3.4%.

For GASB 25 and 27 accounting, the increase in the interest rate assumption decreased the Actuarial Accrued Liability as of June 30, 2013 by \$0.43 billion, from \$12.68 billion to \$12.25 billion, or by 3.4%. The decrease in the ARC was \$25 million or 3.2%.

For GASB 45 accounting, the increase in the interest rate assumption decreased the Actuarial Accrued Liability as of June 30, 2013 by \$6 million, from \$810 million to \$804 million, or by 0.7%. The decrease in the ARC was \$0.2 million or 0.5%.

Changes in Plan Provisions since Prior Valuation

This valuation reflects updated information provided by the System that beneficiaries are not eligible for the Medical Insurance Plan Contribution, which is subject to GASB 45 accounting. This correction decreased the Actuarial Accrued Liability as of June 30, 2013 by \$11 million, from \$804 million to \$793 million, or by 1.4%. The decrease in the ARC was \$0.6 million or 1.3%.

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Law 114

During the 2010-2011 fiscal year, Law 114 was enacted which increased employer contributions from the prior 8.5% of compensation to 9.5% of compensation effective July 1, 2011. For the next four fiscal years effective July 1, employer contributions will increase annually by 1% of compensation. For the next five fiscal years, employer contributions will increase annually by 1.25%, reaching an ultimate employer contribution rate of 19.75% effective July 1, 2020.

GASB Accounting Information

Accounting results under Governmental Accounting Standards Board Statement No. 25, “*Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans*” (GASB 25), Statement No. 27, “*Accounting for Pensions by State and Local Governmental Employers*” (GASB 27), and Governmental Accounting Standards Board Statement No. 45, “*Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*” (GASB 45) are presented in two sections in this report as discussed below. In addition, as requested by PRTRS, we have separately determined the Annual Required Contribution based on GASB 25 and 27 rules for just the Basic System Benefits.

GASB has issued Statements 67 and 68 which will be replacing GASB Statements 25 and 27. The effective date of Statement 67 (which applies to financial reporting on a plan basis) is the fiscal year ending June 30, 2014. The effective date of Statement 68 (which applies to financial reporting by contributing employers) is the fiscal year ending June 30, 2015, although earlier adoption is permissible. Accordingly, this 2013 valuation will be the last performed under GASB 25 and 27.

Re-classification of Prior Years’ Employer Contributions

As requested by the System and its auditors, this valuation reflects a re-classification in the employer contributions for the fiscal years 2007-2008 through 2011-2012 between GASB 25/27 and GASB 45. While the total employer contributions did not change, the GASB 45 employer contributions were set equal to the actual medical insurance plan continuation benefits paid during the respective fiscal year. As a result of the re-classification of employer contributions, the Net Pension Obligation and Net OPEB Obligation as of June 30, 2012 and the Annual Pension Cost and Annual OPEB Cost for

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the 2012-2013 fiscal year have been revised from the amounts shown in the June 30, 2012 Actuarial Valuation dated July 31, 2013.

Basic System Benefits Information

We have performed a June 30, 2013 actuarial valuation of the Basic System Benefits and have prepared accounting results for them based on GASB 25 and 27 rules.

The FY 2013-2014 ARC for the Basic System Benefits only based on GASB 25 and 27 rules would be \$710.3 million, which equals 56.89% of payroll. The ARC is comprised of the normal cost (the value of benefits accruing to active members each year) and an amortization payment toward the unfunded liability. The ARC represents the portion of the cost of PRTRS' Basic System Benefits that employers should pay in order for PRTRS to be actuarially funded; i.e., the ARC has been reduced to reflect the fact that active members contribute 9% of pay to the system. The employer portion of the statutory funding requirement, which is 11.5% of payroll for the 2013-2014 fiscal year, is less than the ARC by 45.37% of payroll, or \$566.4 million.

As shown in Subsection D of Section IV, PRTRS has Unfunded Actuarial Accrued Liabilities (UAAL) of \$9.7 billion on behalf of Basic System Benefits. Based on the current statutory member and employer funding requirements, the UAAL is expected to grow indefinitely into the future instead of being amortized. Effectively, this means that the statutory member and employer contributions to PRTRS are not adequate to fund PRTRS' Basic System Benefits. ***Instead, PRTRS is being rapidly disfunded.***

GASB 25 and 27 Accounting Information

We have performed a June 30, 2013 actuarial valuation of the Basic System Benefits and the System Administered Benefits (excluding the Medical Insurance Plan Contribution) and have prepared accounting results under GASB 25 for the financial statements of the System and under GASB 27 for the Commonwealth of Puerto Rico's financial statements. No future ad-hoc COLAs are anticipated in these results.

The FY 2013-2014 ARC under GASB 25 and 27 is \$748.6 million, which equals 59.95% of payroll. This includes the Basic System Benefits and the System Administered Benefits (excluding the Medical Insurance Plan Contribution). The FY 2013-2014 APC under GASB 27 is \$759.5 million, which equals 60.83% of payroll.

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As shown in Subsection B of Section V, the Unfunded Actuarial Accrued Liability on a GASB 25 and 27 basis is \$10.3 billion. Based on the current statutory member and employer funding requirements, the UAAL is expected to grow indefinitely into the future. As discussed above, the statutory member and employer contributions to PRTRS are not adequate to fund PRTRS' Basic System Benefits. ***Instead, PRTRS is being rapidly disfunded.*** The System Administered Benefits are financed on a pay-as-you-go basis from the General Fund of the Commonwealth of Puerto Rico

GASB 45 Accounting Information

We have performed a June 30, 2013 actuarial valuation of the Medical Insurance Plan Contribution and have prepared accounting results for the Commonwealth of Puerto Rico's financial statements under GASB 45. (Note that the Medication Bonus has been included in the GASB 25 and 27 results as a Pension Benefit because members can receive the bonus without submitting documentation to substantiate medication expenses.)

The FY 2013-2014 ARC for the Medical Insurance Plan Contribution under GASB 45 is \$46.4 million, which equals 3.72% of payroll. The FY 2013-2014 Annual OPEB Cost under GASB 45 is \$45.9 million, which equals 3.68% of payroll.

There are no member or employer contributions on behalf of the Medical Insurance Plan Contribution. This benefit is financed on a pay-as-you-go basis from the General Fund of the Commonwealth of Puerto Rico. Since this is an Other Postemployment Benefit that is not funded in advance, the ARC for this benefit has been calculated based on an assumed investment return rate of 3.25%, instead of the 6.25% rate used for the Pension Benefits. As shown in Subsection B of Section VI, the Unfunded Actuarial Accrued Liability on a GASB 45 basis for this benefit is \$793 million.

Solvency Test for Basic System Benefits

Subsection A of Section III determines the solvency percentage for each membership group for the Basic System Benefits. The Actuarial Value of Assets was allocated to each membership group by first allocating based on the accumulated member contributions with interest. The remaining assets were then assigned first to retirees, disabled members, and beneficiaries, second to terminated members with rights to a deferred pension, and then to active members. As shown in Subsection A of Section III, the overall solvency percentage is 16.4%. For retirees, disabled members, and

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beneficiaries, the solvency percentage is 5.7%. Vested terminated members with rights to deferred pensions and active members have solvency percentages of 42.9% and 30.9%, respectively. The solvency percentage for former members due a refund of accumulated member contributions with interest is always 100.0% under this test.

Note there were insufficient assets to cover all of the benefit obligations attributable to retirees, disabled members, and beneficiaries. Therefore, the assets allocated to vested terminated members with the right to a deferred pension, active members and former members due a refund of their contributions are *solely* attributable to the accumulated value of their own contributions; no employer contributions are available to fund their benefit obligations based on this allocation procedure.

Cash Flow Projection for Basic System Benefits

PRTRS is a relatively mature retirement system with a significant retiree population. Based on the current statutory funding requirements, the annual benefit payments and administrative expenses paid by the system are significantly larger than the member and employer contributions made to the system. Thus investment income and current assets must be used to cover this negative cash flow. As a result, system assets can be expected to decline since the negative cash flow exceeds expected investment income. PRTRS' liabilities for the Basic System Benefits will continue to increase significantly over time. Thus the funded status can be expected to decline over time based on the actuarial assumptions used to prepare this actuarial valuation.

The table shown in Subsection B of Section III provides a simplified illustration of the expected negative net cash flows over the next 10 years. Annual payroll growth of 3.5% is assumed, as future members are assumed to be hired to replace current members who terminate or retire. (Note, we did not attempt to include in the expected benefit payments any benefit payments attributable to new members in preparing this table. Members who join PRTRS in the future will generate some cash outflow during the next 10 years due to refunds of their contributions, death and disability benefits, and immediate annuities due to service purchases, etc. We expect that these amounts will be relatively modest and they have not been included in the results shown. Doing so would increase the expected negative net cash flow.)

Based on this estimate of future contributions and benefit payments, the PRTRS assets are expected to be exhausted by the 2019-2020 fiscal year, assuming an annual 6.25% investment return. It is doubtful that liquid assets will be available to meet benefit

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION I – SUMMARY

payments even to that date in light of the significant assets allocated to illiquid classes including private equity, plan member loans, accounts receivables, and capital assets.

While Law 114 increased employer contributions, we recommend that the statutory funding requirements be further increased in light of:

- the expected negative net cash flows;
- the forecast exhaustion of plan assets by 2019-2020; and,
- the Annual Required Contribution based on GASB 25 and 27.

We note that Act 160, enacted on December 24, 2013, provided for significant pension reforms to counter the imminent expected asset exhaustion. This valuation does not reflect the provisions of Act 160.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION I – SUMMARY

C. Discussion of Supporting Exhibits

System Assets

Section II summarizes the plan assets taken into account in the preparation of the GASB 27 Employer Accounting results for PRTRS.

Subsection A summarizes the Market Value of Assets as of June 30, 2013, including the additional amounts due to the contribution receivables, if any.

Subsection B summarizes the reconciliation of the Market Value of Assets from June 30, 2012 to June 30, 2013.

Subsection C summarizes the development of the Actuarial Value of Assets as of June 30, 2013. The Actuarial Value of Assets is equal to the Market Value of Assets.

Subsection D develops an estimated rate of return on plan assets for the previous plan year. The estimated rate of return from June 30, 2012 to June 30, 2013 was 8.26% on the Market Value of Assets.

Subsection E summarizes the historical estimated rate of return on plan assets on a market value basis.

The asset information used for the valuation was taken from unaudited financial statements provided by PRTRS as of June 30, 2013 and is subject to change upon audit.

Management Information

Section III presents additional information that has been derived from the valuation process and is illustrative of the expected future decline in funded status that is projected based upon our analysis of the valuation results.

Subsection A shows the allocation of assets to the liability for Basic System Benefits by membership group and determines the solvency percentage for each group. Please see Subsection B of Section I for a description of this determination.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION I – SUMMARY

Subsection B shows a projected cash flow for the current fiscal year and the next ten fiscal years for Basic System Benefits. Please see Subsection B of Section I for a description of this projection.

Basic System Benefits Information

Section IV summarizes the Actuarial Accrued Liability and the development of the Annual Required Contribution for just the Basic System Benefits under GASB 25 and 27 for the fiscal year ending June 30, 2014 (please see Subsection B of Section I for a description of the benefits included in this valuation).

Subsection A summarizes the development of the Present Value of Benefits as of June 30, 2013.

Subsection B summarizes the development of the Actuarial Accrued Liability as of June 30, 2013.

Subsection C summarizes the development of the Employer Normal Cost. The Employer Normal Cost is the total normal cost under the Entry Age Normal Actuarial Cost Method increased by expected administrative expenses paid from the fund and reduced by expected member contributions.

Subsection D summarizes the development of the amortization payment of the Unfunded Actuarial Accrued Liability. The amortization period used to calculate the ARC is a closed 30 years from June 30, 2007 (24 years remain as of June 30, 2013) with annual payments increasing each year by 3.5% to remain as a level percent of payroll.

Subsection E summarizes the development of the Annual Required Contribution (ARC). The ARC is the sum of the employer normal cost and the amortization payments, adjusted to mid-year to reflect that payments are made throughout the year.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION I – SUMMARY

GASB 25 and 27 Accounting Information

Section V summarizes the Actuarial Accrued Liability and the development of the Annual Required Contribution and Annual Pension Cost under GASB 25 and 27 for the fiscal year ending June 30, 2014 (please see Subsection B of Section I for a description of the benefits included in these valuation results). Results are shown in total for GASB 25 and 27, with the Actuarial Accrued Liability and Employer Normal Cost presented for the underlying Basic System Benefits and for the underlying System Administered Benefits that are included in this valuation.

Subsection A summarizes the development of the Actuarial Accrued Liability as of June 30, 2013 and Employer Normal Cost as of December 31, 2013.

Subsection B summarizes the development of the amortization payment of the Unfunded Actuarial Accrued Liability. The amortization period used to calculate the ARC is a closed 30 years from June 30, 2007 (24 years remain as of June 30, 2013) with annual payments increasing each year by 3.5% to remain as a level percent of payroll.

Subsection C summarizes the development of the Annual Required Contribution (ARC). The ARC is the sum of the employer normal cost and the amortization payments, adjusted to mid-year to reflect that payments are made throughout the year.

Subsection D summarizes the development of the Net Pension Obligation (NPO) as of June 30, 2013. The NPO is defined as the cumulative difference between the Annual Pension Cost (APC) and the employer's contribution to the plan, including any pension liability (asset) at transition.

Subsection E summarizes the development of the APC for the fiscal year ending June 30, 2014. The APC is the amount recognized in the employer's financial statements as the cost of the pension plan and is determined in accordance with GASB Statement No. 27. The APC is equal to the ARC plus interest on the NPO, if any, as of June 30, 2013 less an amortization of this NPO.

Subsection F shows a seven-year history of the ARC, APC, and the percentage contributed. This schedule is required by GASB Statements No. 25 and 27. The FY 2013-2014 contribution percentage assumes that the employer contributions for Basic System Benefits will be at the statutory level of 11.5% of payroll and include anticipated

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION I – SUMMARY

early retirement incentive contributions and assume that employer contributions for the applicable System Administered Benefits will be the anticipated pay-as-you-go payments.

Subsection G shows a six-year history of the funding progress of the plan. This schedule is required by GASB Statements No. 25 and 27.

Schedule H summarizes information used to determine the Annual Required Contribution for the fiscal year ending June 30, 2014.

GASB 45 Accounting Information

Section VI summarizes the Actuarial Accrued Liability and the development of the Annual Required Contribution for the fiscal year ending June 30, 2014 for the Medical Insurance Plan Contribution.

Subsection A summarizes the development of the Actuarial Accrued Liability as of June 30, 2013 and Employer Normal Cost as of December 31, 2013.

Subsection B summarizes the development of the amortization payment of the Unfunded Actuarial Accrued liability. The amortization period used to calculate the ARC is a closed 30 years from June 30, 2007 (24 years remain as of June 30, 2013) with annual payments increasing each year by 3.5% to remain as a level percent of payroll.

Subsection C summarizes the development of the Annual Required Contribution (ARC). The ARC is the sum of the employer normal cost and the amortization payments, adjusted to mid-year to reflect that payments are made throughout the year.

Subsection D summarizes the development of the Net OPEB Obligation (NOO) as of June 30, 2013. The NPO is defined as the cumulative difference between the Annual OPEB Cost (AOC) and the employer's contribution to the plan since the adoption of GASB 45.

Subsection E summarizes the development of the AOC for the fiscal year ending June 30, 2014. The AOC is the amount recognized in the employer's financial statements as the cost of other postemployment benefits and is determined in accordance with GASB Statement No. 45. The AOC is equal to the ARC plus interest on the NOO, if any, as of June 30, 2013 less an amortization of this NOO.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

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Subsection F shows a seven-year history of the ARC, AOC, and the percentage contributed. This schedule is required by GASB Statements No. 45. The FY 2013-2014 contribution percentage assumes that employer contributions for the Medical Insurance Plan Contribution will be the anticipated pay-as-you-go payments.

Subsection G shows a six-year history of the funding progress of the plan. This schedule is required by GASB Statements No. 45.

Schedule H summarizes information used to determine the Annual Required Contribution for the fiscal year ending June 30, 2014.

Census Data

Section VII summarizes the census data provided by the System and utilized in the preparation of the actuarial valuation. Subsection A provides a reconciliation of the current year participant counts from the prior valuation. Subsection B presents a profile of active participants, summarized by gender and age and service groups. Subsections C, D, E, and F show the number and average benefit of the terminated vested participants, retirees, disabled members, and beneficiaries, respectively. Special data adjustments are discussed in Section IX.

Summary of Principal Plan Provisions

Section VIII summarizes the principal plan provisions as of the valuation date and denotes any changes from the previous valuation.

Actuarial Assumptions and Methods

Sections IX and X summarize the actuarial assumptions and methods that were utilized in the preparation of this actuarial valuation and denote any changes from the previous valuation.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION II - SYSTEM ASSETS

A. Market Value of Assets as of June 30, 2013

1. Assets		
Cash	\$	116,097,000
Corporate and Government Bonds		742,146,000
Stocks		644,074,000
Private Equity Investments		14,823,000
Total Loans to Plan Members		411,032,000
Accounts Receivable		31,318,000
Capital Assets		19,312,000
Other Assets		<u>781,000</u>
Total	\$	1,979,583,000
2. Total Liabilities	\$	72,701,000
3. Market Value of Assets as of June 30, 2013: (1) - (2)	\$	1,906,882,000

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION II - SYSTEM ASSETS

B. Reconciliation of Market Value of Assets from June 30, 2012 to June 30, 2013

1. Market Value of Assets as of June 30, 2012 in prior report	\$	2,099,563,000
2. Adjustment to match audited assets as of June 30, 2012		(347,000)
3. Audited Market Value of Assets as of June 30, 2012		2,099,216,000
4. Additions		
a. Contributions		
Member Contributions	\$	119,162,000
Employer Contributions		133,369,000
Transfers In		1,680,000
Special		<u>54,124,000</u>
Total Contributions	\$	308,335,000
b. Investment Income		
Interest Income	\$	71,457,000
Dividends Income		2,693,000
Net Appreciation of Investments		86,573,000
Other Income		1,383,000
Investment Related Expenses		<u>(3,229,000)</u>
Net Investment Income	\$	158,877,000
Total Additions	\$	467,212,000
5. Decreases		
Refund of Member Contributions	\$	7,666,000
Annuities and Death Benefits		579,144,000
Special Benefits		49,130,000
Administrative Expenses		<u>23,606,000</u>
Total	\$	659,546,000
6. Net Increase (Decrease) in Market Value of Assets	\$	(192,334,000)
7. Market Value of Assets as of June 30, 2013	\$	1,906,882,000

C. Development of Actuarial Value of Assets as of June 30, 2013

The Actuarial Value of Assets as of June 30, 2013 is equal to the Market Value of Assets as of June 30, 2013 of \$1,906,882,000.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION II - SYSTEM ASSETS

D. Estimated Annual Rate of Return for year ending June 30, 2013

	<u>Market Value</u>
1. Value of Assets as of June 30, 2012	\$ 2,099,216,000
2. Total Contributions	308,335,000
3. Benefit Payments and Expenses	659,546,000
4. Value of Assets as of June 30, 2013	1,906,882,000
5. Non-Investment Increment: (2) - (3)	(351,211,000)
6. Investment Increment: (4) - (1) - (5)	158,877,000
7. Time Weighted Value: (1) +.5 * (5)	1,923,610,500
8. Estimated Annual Rate of Return: (6) / (7)	8.26%

E. Estimated Historical Rates of Return

<u>Plan Year Ending</u>	<u>Market Value</u>
June 30, 2013	8.26%
June 30, 2012	1.73%
June 30, 2011	23.37%
June 30, 2010	15.89%
June 30, 2009	-16.38%
5-year Compounded Annual Return	5.66%

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION III - MANAGEMENT INFORMATION

A. Allocation of Assets for Basic System Benefits to Membership Group

Membership Group	Actuarial Accrued Liability	Allocated Assets *	Solvency Percentage
1. Retirees, Disabled Members, and Beneficiaries	\$6,813,151,750	\$ 388,864,542	5.7%
2. Vested Terminated Members	51,537,106	22,102,513	42.9%
3. Active Members	4,766,648,477	1,471,503,277	30.9%
4. Former Members due a refund of contributions	<u>24,411,668</u>	<u>24,411,668</u>	<u>100.0%</u>
5. Total	\$11,655,749,001	\$ 1,906,882,000	16.4%

* Allocated assets are determined by first assigning the accumulated member contributions with interest to each membership category. Remaining assets are then allocated first to retirees, disabled members, and beneficiaries, second to vested terminated members, and the rest to active members.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION III - MANAGEMENT INFORMATION

B. Projected Cash Flows for Basic System Benefits (Simplified Illustration)

<u>Plan Year Ending</u>	<u>Estimated Payroll</u>	<u>Estimated Member and Employer Contributions</u>	<u>Estimated Benefit Payments and Administrative Expenses</u>	<u>Net Cash Flow</u>	<u>Estimated Net Plan Assets at Year-End</u>
06/30/2014	1,248,674,000	256,258,000	629,725,000	(373,467,000)	1,641,101,000
06/30/2015	1,292,378,000	278,165,000	644,802,000	(366,637,000)	1,365,749,000
06/30/2016	1,337,611,000	301,285,000	663,002,000	(361,717,000)	1,078,259,000
06/30/2017	1,384,428,000	329,142,000	683,843,000	(354,701,000)	780,033,000
06/30/2018	1,432,883,000	358,573,000	707,592,000	(349,019,000)	469,024,000
06/30/2019	1,483,034,000	389,671,000	733,995,000	(344,324,000)	143,417,000
06/30/2020	1,534,940,000	422,495,000	764,958,000	(342,463,000)	(200,622,000)
06/30/2021	1,588,663,000	457,108,000	799,614,000	(342,506,000)	(566,208,000)
06/30/2022	1,644,266,000	473,006,000	836,162,000	(363,156,000)	(975,928,000)
06/30/2023	1,701,815,000	489,479,000	872,929,000	(383,450,000)	(1,432,175,000)
06/30/2024	1,761,379,000	506,588,000	908,653,000	(402,065,000)	(1,936,125,000)

Notes:

- Estimated Plan Assets at Year-End assumes that the investment return assumption of 6.25% is met.
- Estimated Payroll is assumed to grow 3.5% annually.
- Member Contributions were estimated to be 9% of Estimated Payroll each year.
- Employer Contributions were estimated to be 11.5% of Estimated Payroll for FYE 2014, increasing to 19.75% of Estimated Payroll for FYE 2021 and later in accordance with Law 114. Employer contributions include expected payroll-based contributions received by the System on behalf of certain Law 70 retirees during the temporary period when the employers are directly paying the retirees' benefits. Employer contributions do not include the temporary pension benefits being paid by employers directly to certain Law 70 retirees.
- The Estimated Benefit Payments do not include amounts expected to be made to future participants, such as:
 - refund of contributions to terminated nonvested participants,
 - disability benefits,
 - death benefits,
 - retirement benefits due to service purchase, and thus are slightly understated.
- Administrative Expenses are assumed to grow 2.5% annually.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION IV - BASIC SYSTEM BENEFITS INFORMATION

A. Development of Present Value of Benefits as of June 30, 2013

1. Projected Benefits Payable to Retirees and Beneficiaries	
Retirees	\$ 6,531,777,974
Disabled Members	151,944,101
Beneficiaries	<u>129,429,675</u>
Total	\$ 6,813,151,750
2. Projected Benefits for Vested Terminated Members	51,537,106
3. Projected Benefits for Active Members	
Retirement	\$ 7,255,704,002
Disability	74,161,051
Pre Retirement Death	74,475,077
Return of Members' Contributions	13,769,950
Vested Withdrawal	<u>9,082,651</u>
Total	\$ 7,427,192,731
4. Return of Contributions due to former Members	\$ 24,411,668
5. Total Present Value of Benefits: (1) + (2) + (3) + (4)	\$ 14,316,293,255

The above liabilities are for Basic System Benefits. See Section I for more information.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION IV - BASIC SYSTEM BENEFITS INFORMATION

B. Development of Actuarial Accrued Liability as of June 30, 2013

1. Total Present Value of Benefits	\$	14,316,293,255
2. Present Value of Future Total Normal Cost		
Retirement	\$	2,521,619,401
Disability		36,273,807
Pre Retirement Death		37,775,218
Return of Members' Contributions		58,409,803
Vested Withdrawal		<u>6,466,025</u>
Total	\$	2,660,544,254
3. Present Value of Future Active Member Contributions	\$	1,249,272,365
4. Present Value of Future Employer Normal Cost: (2) - (3)	\$	1,411,271,889
5. Actuarial Accrued Liability: (1) - (2)	\$	11,655,749,001

The above liabilities are for Basic System Benefits. See Section I for more information.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION IV - BASIC SYSTEM BENEFITS INFORMATION

C. Development of Employer Normal Cost Payable as of December 31, 2013

1. Total Normal Cost as of December 31, 2013	
Retirement	\$ 227,407,116
Disability	3,257,859
Pre Retirement Death	3,600,788
Return of Members' Contributions	5,311,873
Vested Withdrawal	<u>575,304</u>
Total	\$ 240,152,940
2. Expected Member Contributions	\$ 110,388,995
3. Load for Administrative Expenses:	\$ 23,691,000
4. Total Employer Normal Cost as of December 31, 2013: (1) - (2) + (3)	\$ 153,454,945

The above liabilities are for Basic System Benefits. See Section I for more information.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION IV - BASIC SYSTEM BENEFITS INFORMATION

D. Development of Unfunded Actuarial Accrued Liability and Amortization Payment Payable as of December 31, 2013

1. Actuarial Accrued Liability as of June 30, 2013	\$ 11,655,749,001
2. Actuarial Value of Assets as of June 30, 2013	\$ 1,906,882,000
3. Unfunded Actuarial Accrued Liability as of June 30, 2013: (1) - (2)	\$ 9,748,867,001
4. Amortization Period in years	24
5. Amortization Factor at beginning of year *	18.0457
6. Amortization Amount Payable as of December 31, 2013: [(3) / (5)] * (1.0625 ^ 0.5)	\$ 556,858,537

* Amortization calculated as a level percent of pay increasing 3.5% per year.

E. Development of Annual Required Contribution

1. Total Employer Normal Cost as of December 31, 2013	\$ 153,454,945
2. Amortization Payment as of December 31, 2013	\$ 556,858,537
3. Annual Required Contribution*: (1) + (2)	\$ 710,313,482

* Assumes payments made throughout the year.

The above liabilities are for Basic System Benefits. See Section I for more information.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION V - GASB 25 AND 27 ACCOUNTING INFORMATION

A. Benefit Obligations

	<u>Basic System Benefits</u>	<u>System Administered Benefits</u>	<u>Total</u>
1. Projected Benefits as of June 30, 2013 Payable to:			
Retirees	\$ 6,531,777,974	\$ 437,577,593	\$ 6,969,355,567
Disabled Members	151,944,101	29,484,520	181,428,621
Beneficiaries	129,429,675	10,785,126	140,214,801
Vested Terminated Members	51,537,106	3,865,887	55,402,993
Return of Contributions due to former Members	24,411,668	0	24,411,668
Active Members	<u>7,427,192,731</u>	<u>150,359,553</u>	<u>7,577,552,284</u>
Total	\$ 14,316,293,255	\$ 632,072,679	\$ 14,948,365,934
2. Present Value of Future Normal Cost	\$ 2,660,544,254	\$ 35,826,891	\$ 2,696,371,145
3. Actuarial Accrued Liability as of June 30, 2013:			
(1) - (2)	\$ 11,655,749,001	\$ 596,245,788	\$ 12,251,994,789
4. Total Employer Normal Cost as of December 31, 2013	\$ 153,454,945	\$ 4,198,250	\$ 157,653,195

The above liabilities are for Basic System Benefits and selected System Administered Benefits. See Section I for more information.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION V - GASB 25 AND 27 ACCOUNTING INFORMATION

B. Development of Unfunded Actuarial Accrued Liability and Amortization Payment Payable as of December 31, 2013

1. Actuarial Accrued Liability as of June 30, 2013	\$	12,251,994,789
2. Actuarial Value of Assets as of June 30, 2013	\$	1,906,882,000
3. Unfunded Actuarial Accrued Liability as of June 30, 2013: (1) - (2)	\$	10,345,112,789
4. Amortization Period in years		24
5. Amortization Factor at beginning of year *		18.0457
6. Amortization Amount Payable as of December 31, 2013: [(3) / (5)] * (1.0625 ^ 0.5)	\$	590,916,295

* Amortization calculated as a level percent of pay increasing 3.5% per year.

C. Development of Annual Required Contribution

1. Total Employer Normal Cost as of December 31, 2013	\$	157,653,195
2. Amortization Payment as of December 31, 2013	\$	590,916,295
3. Annual Required Contribution*: (1) + (2)	\$	748,569,490

* Assumes payments made throughout the year.

The above liabilities are for Basic System Benefits and selected System Administered Benefits. See Section I for more information.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION V - GASB 25 AND 27 ACCOUNTING INFORMATION

D. Development of Net Pension Obligation as of June 30, 2013

1. Net Pension Obligation as of June 30, 2012	\$	2,467,447,600
2. Annual Pension Cost for Fiscal Year 2012 - 2013	\$	746,891,072
3. Fiscal Year 2012 - 2013 Employer Contribution	\$	187,444,000
4. Net Pension Obligation as of June 30, 2013: (1) + (2) - (3)	\$	3,026,894,672

E. Development of Fiscal Year 2013 - 2014 Annual Pension Cost

1. Annual Required Contribution	\$	748,569,490
2. Interest on Net Pension Obligation as of June 30, 2013	\$	189,180,917
3. Adjustment to the Annual Required Contribution	\$	178,218,389
4. Fiscal Year 2013 - 2014 Annual Pension Cost: (1) + (2) - (3)	\$	759,532,018

The above liabilities are for Basic System Benefits and selected System Administered Benefits. See Section I for more information.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION V - GASB 25 AND 27 ACCOUNTING INFORMATION

F. Schedule of Employer Contributions

<u>Year Ended June 30</u>	<u>Actual Employer Contribution</u>	<u>Annual Required Contribution</u>	<u>Percent Contributed</u>	<u>Annual Pension Cost</u>	<u>Percent Contributed</u>
2014	\$193,331,000	\$748,569,490	25.83%*	\$759,532,018	25.45%*
2013**	187,444,000	736,590,722	25.45	746,891,072	25.10
2012	176,970,000	659,334,354	26.84	673,946,760	26.26
2011	159,754,000	528,169,741	30.25	550,478,660	29.02
2010	164,650,000	477,213,279	34.50	496,396,929	33.17
2009	171,331,000	393,871,256	43.50	410,541,592	41.73
2008	156,835,000	341,495,050	45.93	355,742,842	44.09

* Percentage contributed for the year ended June 30, 2014 assumes the actual employer contribution is 11.5% of expected payroll for the Basic System Benefits plus the expected pay-as-you-go amounts for the selected System Administered Benefits and the expected Law 70 early retirement incentive contributions.

** For the fiscal year ending June 30, 2013, the Actual Employer Contribution for Basic System Benefits was \$133,369,000 and for System Administered Benefits was \$54,075,000. The Annual Required Contribution for Basic System Benefits was \$698,377,896 and for System Administered Benefits was \$38,212,826.

The above liabilities are for Basic System Benefits and selected System Administered Benefits. See Section I for more information.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION V - GASB 25 AND 27 ACCOUNTING INFORMATION

G. Schedule of Funding Progress

	(a)	(b)	(c)=(b)-(a)	(d)=(a)/(b)	(e)	(f)=(c)/(e)
Actuarial Valuation <u>Date</u>	Actuarial Value of <u>Assets</u>	Accrued <u>Liability</u>	Unfunded <u>Liability</u>	Funded <u>Ratio</u>	Annual <u>Salary</u>	Unfunded Liability as a % of Annual <u>Salary</u>
06/30/2013	\$1,906,882,000	\$12,251,994,789	\$10,345,112,789	15.6%	\$1,248,674,490	828.5%
06/30/2012	2,099,563,000	12,350,835,526	10,251,272,526	17.0%	1,292,974,899	792.8%
06/30/2011	2,385,863,000	11,448,609,111	9,062,746,111	20.8%	1,320,399,637	686.4%
06/30/2010	2,221,977,000	9,279,775,973	7,057,798,973	23.9%	1,370,343,618	515.0%
06/30/2009	2,157,593,000	8,721,514,811	6,563,921,811	24.7%	1,418,304,104	462.8%
06/30/2008		Not Determined			Not Determined	

The above liabilities are for Basic System Benefits and selected System Administered Benefits. See Section I for more information.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION V - GASB 25 AND 27 ACCOUNTING INFORMATION

H. Additional Information

The following information was used to determine the Annual Required Contribution for the fiscal year ending June 30, 2014. The ARC is for the Basic System Benefits and selected System Administered Benefits. See Section I for more information.

Valuation Date:	June 30, 2013
Actuarial Cost Method:	Entry Age Normal
Amortization method:	30 years closed, level percent of payroll
Remaining Amortization Period:	24 years
Asset valuation method:	Market Value of Assets
Assumptions:	
Investment rate of return	6.25%
Projected Salary Increases	3.5% general wage inflation plus a service based merit increase
Inflation	2.5%
Cost of Living Adjustments	None assumed

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VI - GASB 45 ACCOUNTING INFORMATION

A. Benefit Obligations

1. Projected Benefits as of June 30, 2013 Payable to:		
Retirees	\$	461,515,582
Disabled Members		29,836,183
Beneficiaries		0
Vested Terminated Members		9,289,332
Active Members		<u>442,492,970</u>
Total	\$	943,134,067
2. Present Value of Future Normal Cost	\$	150,258,978
3. Actuarial Accrued Liability as of June 30, 2013:		
(1) - (2)	\$	792,875,089
4. Total Employer Normal Cost as of December 31, 2013	\$	13,759,245

The above liabilities are for the Medical Insurance Plan Contribution portion of the System Administered Benefits. See Section I for more information.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VI - GASB 45 ACCOUNTING INFORMATION

B. Development of Unfunded Actuarial Accrued Liability and Amortization Payment Payable as of December 31, 2013

1. Actuarial Accrued Liability as of June 30, 2013	\$	792,875,089
2. Actuarial Value of Assets as of June 30, 2013	\$	0
3. Unfunded Actuarial Accrued Liability as of June 30, 2013: (1) - (2)	\$	792,875,089
4. Amortization Period in years		24
5. Amortization Factor at beginning of year *		24.6803
6. Amortization Amount Payable as of December 31, 2013: [(3) / (5)] * (1.0325 ^ 0.5)	\$	32,643,699

* Amortization calculated as a level percent of pay increasing 3.5% per year.

C. Development of Annual Required Contribution

1. Total Employer Normal Cost as of December 31, 2013	\$	13,759,245
2. Amortization Payment as of December 31, 2013	\$	32,643,699
3. Annual Required Contribution*: (1) + (2)	\$	46,402,944

* Assumes payments made throughout the year.

The above liabilities are for the Medical Insurance Plan Contribution portion of the System Administered Benefits. See Section I for more information.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VI - GASB 45 ACCOUNTING INFORMATION

D. Development of Net OPEB Obligation as of June 30, 2013

1. Net OPEB Obligation as of June 30, 2012	\$	42,572,945
2. Annual OPEB Cost for Fiscal Year 2012 - 2013	\$	45,333,986
3. Fiscal Year 2012 - 2013 Employer Contribution	\$	34,239,000
4. Net OPEB Obligation as of June 30, 2013: (1) + (2) - (3)	\$	53,667,931

E. Development of Fiscal Year 2013 - 2014 Annual OPEB Cost

1. Annual Required Contribution	\$	46,402,944
2. Interest on Net OPEB Obligation as of June 30, 2013	\$	1,744,208
3. Adjustment to the Annual Required Contribution	\$	2,245,197
4. Fiscal Year 2013 - 2014 Annual OPEB Cost: (1) + (2) - (3)	\$	45,901,955

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VI - GASB 45 ACCOUNTING INFORMATION

F. Schedule of Employer Contributions

<u>Year Ended June 30</u>	<u>Actual Employer Contribution</u>	<u>Annual Required Contribution</u>	<u>Percent Contributed</u>	<u>Annual OPEB Cost</u>	<u>Percent Contributed</u>
2014	\$36,192,000	\$46,402,944	78.00%*	\$45,901,955	78.85%*
2013	34,239,000	45,668,532	74.97	45,333,986	75.53
2012	34,471,000	41,068,597	83.94	40,980,028	84.12
2011	33,432,000	39,925,237	83.74	39,896,228	83.80
2010	30,161,000	42,487,047	70.99	42,493,786	70.98
2009	29,333,000	38,015,446	77.16	38,029,724	77.13
2008	28,266,000	36,836,179	76.73	36,836,179	76.73

* Percentage contributed for the year ended June 30, 2014 assumes the actual employer contribution is the expected pay-as-you-go amounts for the Medical Insurance Plan Contribution.

The above liabilities are for the Medical Insurance Plan Contribution portion of the System Administered Benefits. See Section I for more information.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VI - GASB 45 ACCOUNTING INFORMATION

G. Schedule of Funding Progress

	(a)	(b)	(c)=(b)-(a)	(d)=(a)/(b)	(e)	(f)=(c)/(e)
Actuarial Valuation <u>Date</u>	Actuarial Value of <u>Assets</u>	Accrued <u>Liability</u>	Unfunded <u>Liability</u>	Funded <u>Ratio</u>	Annual <u>Salary</u>	Unfunded Liability as a % of Annual <u>Salary</u>
06/30/2013	\$0	\$792,875,089	\$792,875,089	0.0%	\$1,248,674,490	63.5%
06/30/2012	\$0	797,332,237	797,332,237	0.0%	1,292,974,899	61.7%
06/30/2011	\$0	706,068,965	706,068,965	0.0%	1,320,399,637	53.5%
06/30/2010	\$0	694,229,882	694,229,882	0.0%	1,370,343,618	50.7%
06/30/2009	\$0	750,381,890	750,381,890	0.0%	1,418,304,104	52.9%
06/30/2008		Not Determined			Not Determined	

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VI - GASB 45 ACCOUNTING INFORMATION

H. Additional Information

The following information was used to determine the Annual Required Contribution for the fiscal year ending June 30, 2014. The ARC is for the Medical Insurance Plan Contribution portion of the System Administered Benefits. See Section I for more information.

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Actuarial Cost Method:	Entry Age Normal
Amortization method:	30 years closed, level percent of payroll
Remaining Amortization Period:	24 years
Asset valuation method:	Market Value of Assets
Assumptions:	
Investment rate of return	3.25%
Projected Salary Increases	3.5% general wage inflation plus a service based merit increase
Inflation	2.5%
Cost of Living Adjustments	None assumed

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VII – CENSUS DATA

A. Reconciliation with Prior Valuation

	<u>Active</u>	<u>Terminated Vested</u>	<u>Retirees, Disabled Members, and Beneficiaries</u>	<u>Total</u>
Members as of June 30, 2012	42,707	738	36,505	79,950
Changes				
Terminated Vested	(143)	143	0	0
Retired & Disabled	(2,340)	(54)	2,394	0
Death	(42)	(4)	(827)	(873)
Disappeared	(578)	0	(26)	(604)
Return/Transfer of Contributions	(227)	(58)	0	(285)
Return to Active	673	(67)	(3)	603
New	1,503	0	324	1,827
Members as of June 30, 2013	41,553 ¹	698	38,367	80,618

¹ Includes 210 members on leave of absence without pay who are assumed not to earn additional benefits.

The liability for the Return of Contributions due to former Members was provided by the System and equals the accumulated contributions with interest as of June 30, 2013 for former participants who terminated employment by June 30, 2013 with less than ten years of service and have not received a return of contributions as of June 30, 2013.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VII – CENSUS DATA

B. Summary of Active Members as of June 30, 2013

Number of Male Participants by Age and Service Groups

Age	Years of Credited Service										Total	
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40&Up		
0-24	25	3	-	-	-	-	-	-	-	-	-	28
25-29	127	316	46	-	-	-	-	-	-	-	-	489
30-34	81	284	417	94	-	-	-	-	-	-	-	876
35-39	44	153	278	660	35	1	-	-	-	-	-	1,171
40-44	24	85	174	407	352	74	-	-	-	-	-	1,116
45-49	24	58	138	235	293	651	64	1	-	-	-	1,464
50-54	21	48	102	171	211	556	562	37	1	-	-	1,709
55-59	10	35	75	107	146	241	276	82	15	-	-	987
60-64	6	10	36	54	60	89	86	19	16	1	-	377
65-69	6	6	6	15	9	33	15	2	4	4	-	100
70&Up	2	4	3	3	6	6	9	2	1	2	-	38
Total	370	1,002	1,275	1,746	1,112	1,651	1,012	143	37	7	-	8,355

Average Compensation of Male Participants by Age and Service Groups

Age	Years of Credited Service										Average	
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40&Up		
0-24	20,730	21,480	-	-	-	-	-	-	-	-	-	20,810
25-29	20,993	21,682	22,365	-	-	-	-	-	-	-	-	21,567
30-34	21,044	21,547	23,834	28,728	-	-	-	-	-	-	-	23,360
35-39	22,070	21,743	24,641	30,901	33,057	28,200	-	-	-	-	-	27,949
40-44	22,606	24,606	26,229	31,434	33,956	34,672	-	-	-	-	-	30,923
45-49	24,830	22,997	25,760	30,744	33,458	34,657	36,230	31,044	-	-	-	32,394
50-54	26,297	23,898	26,486	30,327	33,395	34,407	35,482	36,904	32,532	-	-	33,413
55-59	22,212	25,168	26,352	29,975	32,852	34,432	35,122	35,815	37,150	-	-	32,998
60-64	33,640	24,301	27,528	29,587	33,193	33,896	34,055	37,756	39,442	44,640	-	32,795
65-69	24,802	24,396	26,916	30,043	35,377	34,179	33,293	33,378	36,729	37,704	-	32,175
70&Up	21,420	22,440	18,180	28,816	31,792	33,410	35,469	31,932	32,148	37,350	-	30,388
Average	22,071	22,250	24,958	30,722	33,504	34,481	35,277	36,233	37,836	38,594	-	30,240

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VII – CENSUS DATA

B. Summary of Active Members as of June 30, 2013

Number of Female Participants by Age and Service Groups

Age	Years of Credited Service										Total	
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40&Up		
0-24	109	32	-	-	-	-	-	-	-	-	-	141
25-29	528	1,429	239	1	-	-	-	-	-	-	-	2,197
30-34	353	1,215	1,599	349	5	-	-	-	-	-	-	3,521
35-39	211	662	1,067	2,404	124	4	-	-	-	-	-	4,472
40-44	154	441	743	1,712	1,292	284	2	-	-	-	-	4,628
45-49	95	315	571	1,254	1,192	2,622	381	4	-	-	-	6,434
50-54	51	180	394	822	784	2,060	2,046	263	-	-	-	6,600
55-59	32	82	195	467	494	958	865	328	50	-	-	3,471
60-64	10	28	77	163	192	354	266	90	54	19	-	1,253
65-69	3	11	22	34	63	97	88	21	7	24	-	370
70&Up	3	1	4	21	5	17	26	11	4	19	-	111
Total	1,549	4,396	4,911	7,227	4,151	6,396	3,674	717	115	62	-	33,198

Average Compensation of Female Participants by Age and Service Groups

Age	Years of Credited Service										Average	
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40&Up		
0-24	20,995	21,412	-	-	-	-	-	-	-	-	-	21,090
25-29	21,168	21,717	22,393	23,310	-	-	-	-	-	-	-	21,659
30-34	21,228	21,763	23,944	28,988	25,200	-	-	-	-	-	-	23,421
35-39	21,736	21,894	24,413	31,020	33,303	29,902	-	-	-	-	-	27,717
40-44	22,529	22,269	25,062	31,260	33,943	34,695	36,990	-	-	-	-	30,080
45-49	22,660	22,322	25,541	30,895	33,360	34,736	35,845	33,120	-	-	-	32,195
50-54	22,952	22,493	25,832	30,881	33,412	34,430	35,417	36,191	-	-	-	33,316
55-59	25,881	22,459	26,013	30,335	33,286	34,214	35,195	35,846	38,106	-	-	33,200
60-64	26,821	24,947	25,395	30,161	32,858	34,239	34,562	36,448	37,563	36,771	-	33,095
65-69	25,632	22,428	26,191	30,600	32,128	34,119	35,443	36,659	42,387	37,987	-	33,435
70&Up	23,704	21,300	32,746	30,773	31,291	33,947	34,233	35,433	31,980	37,864	-	33,607
Average	21,680	21,921	24,599	30,874	33,487	34,515	35,340	36,050	37,898	37,577	-	30,002

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VII – CENSUS DATA

B. Summary of Active Members as of June 30, 2013

Number of All Active Participants by Age and Service Groups

Age	Years of Credited Service										Total	
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40&Up		
0-24	134	35	-	-	-	-	-	-	-	-	-	169
25-29	655	1,745	285	1	-	-	-	-	-	-	-	2,686
30-34	434	1,499	2,016	443	5	-	-	-	-	-	-	4,397
35-39	255	815	1,345	3,064	159	5	-	-	-	-	-	5,643
40-44	178	526	917	2,119	1,644	358	2	-	-	-	-	5,744
45-49	119	373	709	1,489	1,485	3,273	445	5	-	-	-	7,898
50-54	72	228	496	993	995	2,616	2,608	300	1	-	-	8,309
55-59	42	117	270	574	640	1,199	1,141	410	65	-	-	4,458
60-64	16	38	113	217	252	443	352	109	70	20	-	1,630
65-69	9	17	28	49	72	130	103	23	11	28	-	470
70&Up	5	5	7	24	11	23	35	13	5	21	-	149
Total	1,919	5,398	6,186	8,973	5,263	8,047	4,686	860	152	69	-	41,553

Average Compensation of All Active Participants by Age and Service Groups

Age	Years of Credited Service										Average	
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40&Up		
0-24	20,946	21,418	-	-	-	-	-	-	-	-	-	21,044
25-29	21,134	21,711	22,388	23,310	-	-	-	-	-	-	-	21,643
30-34	21,193	21,722	23,921	28,933	25,200	-	-	-	-	-	-	23,408
35-39	21,793	21,865	24,460	30,994	33,249	29,562	-	-	-	-	-	27,765
40-44	22,539	22,647	25,284	31,293	33,946	34,690	36,990	-	-	-	-	30,244
45-49	23,098	22,427	25,584	30,871	33,379	34,720	35,900	32,705	-	-	-	32,232
50-54	23,927	22,789	25,967	30,785	33,408	34,425	35,431	36,279	32,532	-	-	33,336
55-59	25,007	23,269	26,108	30,268	33,187	34,258	35,177	35,840	37,885	-	-	33,155
60-64	29,378	24,777	26,074	30,018	32,938	34,170	34,438	36,676	37,992	37,164	-	33,026
65-69	25,079	23,123	26,347	30,429	32,534	34,134	35,130	36,373	40,330	37,947	-	33,167
70&Up	22,790	22,212	26,504	30,528	31,564	33,807	34,551	34,894	32,014	37,815	-	32,786
Average	21,755	21,982	24,673	30,844	33,490	34,508	35,327	36,081	37,883	37,680	-	30,050

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VII – CENSUS DATA

C. Summary of Terminated Vested Members as of June 30, 2013

<u>Age</u>	<u>Male</u>		<u>Female</u>		<u>Total</u>	
	<u>Count</u>	<u>Average Annual Pension Basic System Benefit</u>	<u>Count</u>	<u>Average Annual Pension Basic System Benefit</u>	<u>Count</u>	<u>Average Annual Pension Basic System Benefit</u>
Under 35	0	0	1	3,600	1	3,600
35-39	7	6,243	35	6,341	42	6,325
40-44	21	7,080	74	7,143	95	7,129
45-49	36	7,963	106	7,805	142	7,845
50-54	57	9,130	112	8,961	169	9,018
55-59	48	9,592	106	9,475	154	9,512
60-64	16	10,316	47	10,740	63	10,632
65 & Over	<u>8</u>	<u>7,285</u>	<u>24</u>	<u>11,191</u>	<u>32</u>	<u>10,215</u>
All Ages	193	8,721	505	8,639	698	8,662

The Average Annual Pension amounts above are as of June 30, 2013. The \$400 minimum monthly benefit is not reflected.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VII – CENSUS DATA

D. Summary of Retirees as of June 30, 2013

<u>Age</u>	<u>Males</u> <u>Average Annual Pension</u>			<u>Females</u> <u>Average Annual Pension</u>			<u>Total</u> <u>Average Annual Pension</u>		
	<u>Count</u>	<u>Basic System Benefit</u>	<u>Total Benefit</u>	<u>Count</u>	<u>Basic System Benefit</u>	<u>Total Benefit</u>	<u>Count</u>	<u>Basic System Benefit</u>	<u>Total Benefit</u>
Under 45	2	34,115	34,115	11	15,546	15,546	13	18,402	18,402
45-49	7	19,399	19,399	16	17,919	17,919	23	18,369	18,369
50-54	84	24,707	24,716	413	23,824	23,836	497	23,973	23,984
55-59	875	25,388	25,392	3,890	24,723	24,732	4,765	24,845	24,853
60-64	1,565	21,643	21,782	6,124	20,940	21,119	7,689	21,083	21,254
65-69	1,493	18,262	18,794	5,059	17,222	17,798	6,552	17,459	18,025
70-74	1,085	15,336	16,339	3,572	13,908	14,929	4,657	14,241	15,258
75-79	865	12,402	13,880	2,703	11,332	12,783	3,568	11,591	13,049
80-84	738	10,114	12,037	1,967	9,694	11,387	2,705	9,809	11,564
85-89	336	9,400	11,216	1,376	8,621	10,270	1,712	8,774	10,455
90-94	114	8,472	9,927	550	8,170	9,652	664	8,222	9,699
95-99	23	8,224	9,409	136	8,013	9,410	159	8,043	9,410
100 & Over	<u>3</u>	<u>5,805</u>	<u>7,102</u>	<u>38</u>	<u>7,961</u>	<u>9,317</u>	<u>41</u>	<u>7,803</u>	<u>9,155</u>
All Ages	7,190	17,356	18,136	25,855	16,978	17,684	33,045	17,060	17,783

The Average Annual Pension amounts above are as of June 30, 2013. In addition, 954 retirees are currently paying annual additional contributions of \$2,764,407 (via a reduced monthly benefit which is not reflected above). The 64 Law 70 retirees have monthly employer contributions as of June 30, 2013 totaling \$20,066 and the amounts above do not reflect the deferral of the benefits for these retirees.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VII – CENSUS DATA

E. Summary of Disabled Members as of June 30, 2013

Age	<u>Males</u> Average Annual Pension			<u>Females</u> Average Annual Pension			<u>Total</u> Average Annual Pension		
	<u>Count</u>	<u>Basic System Benefit</u>	<u>Total Benefit</u>	<u>Count</u>	<u>Basic System Benefit</u>	<u>Total Benefit</u>	<u>Count</u>	<u>Basic System Benefit</u>	<u>Total Benefit</u>
Under 40	2	4,800	4,800	7	5,238	5,385	9	5,141	5,255
40-44	5	6,081	6,081	26	6,693	6,761	31	6,594	6,651
45-49	14	6,711	6,995	74	7,840	7,985	88	7,660	7,827
50-54	42	9,531	9,704	166	9,469	9,630	208	9,481	9,645
55-59	68	8,627	8,970	267	8,064	8,429	335	8,179	8,538
60-64	56	6,442	7,101	271	6,377	7,054	327	6,388	7,062
65-69	55	5,149	6,026	228	5,168	6,082	283	5,164	6,071
70-74	31	4,465	5,439	243	4,564	5,549	274	4,553	5,537
75-79	25	5,009	6,042	209	4,476	5,438	234	4,533	5,503
80-84	44	4,379	5,347	198	4,323	5,326	242	4,333	5,330
85-89	15	4,575	5,607	108	4,393	5,380	123	4,415	5,408
90-94	6	4,162	5,179	50	4,366	5,311	56	4,344	5,297
95-99	4	4,316	5,311	12	4,310	5,195	16	4,311	5,224
100 & Over	<u>2</u>	<u>8,582</u>	<u>9,094</u>	<u>6</u>	<u>4,284</u>	<u>5,344</u>	<u>8</u>	<u>5,358</u>	<u>6,281</u>
All Ages	369	6,367	7,030	1,865	5,948	6,666	2,234	6,017	6,726

The Average Annual Pension amounts above are as of June 30, 2013.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

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F. Summary of Beneficiaries as of June 30, 2013

<u>Age</u>	<u>Males</u> <u>Average Annual Pension</u>			<u>Females</u> <u>Average Annual Pension</u>			<u>Total</u> <u>Average Annual Pension</u>		
	<u>Count</u>	<u>Basic System Benefit</u>	<u>Total Benefit</u>	<u>Count</u>	<u>Basic System Benefit</u>	<u>Total Benefit</u>	<u>Count</u>	<u>Basic System Benefit</u>	<u>Total Benefit</u>
Under 30	27	5,537	5,737	44	5,130	5,248	71	5,285	5,434
30-34	3	3,860	4,063	5	7,607	7,759	8	6,202	6,373
35-39	4	2,886	3,048	6	4,328	4,400	10	3,751	3,859
40-44	10	5,235	5,402	15	4,246	4,369	25	4,641	4,783
45-49	12	3,772	3,958	31	4,518	4,717	43	4,310	4,505
50-54	31	4,335	4,498	28	4,178	4,306	59	4,260	4,407
55-59	50	5,167	5,361	71	5,963	6,211	121	5,634	5,860
60-64	83	5,876	6,109	116	6,819	7,061	199	6,426	6,664
65-69	138	5,783	5,988	214	5,674	5,896	352	5,716	5,932
70-74	170	5,310	5,508	270	5,462	5,693	440	5,403	5,622
75-79	183	4,859	5,065	349	4,746	4,989	532	4,785	5,015
80-84	210	4,445	4,651	347	4,367	4,599	557	4,396	4,618
85-89	197	4,118	4,325	227	3,942	4,144	424	4,023	4,228
90 & Over	<u>120</u>	<u>3,804</u>	<u>3,997</u>	<u>127</u>	<u>3,589</u>	<u>3,762</u>	<u>247</u>	<u>3,694</u>	<u>3,876</u>
All Ages	1,238	4,799	5,003	1,850	4,884	5,104	3,088	4,850	5,064

The Average Annual Pension amounts above are as of June 30, 2013.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VIII – SUMMARY OF PRINCIPAL PLAN PROVISIONS AS OF JUNE 30, 2013

This summary of plan provisions is intended only to describe the essential features of the plan for valuation purposes. All eligibility requirements and benefit amounts shall be determined in strict accordance with the plan document itself.

1. Type of Plan

The System is a contributory, defined benefit plan.

2. Effective Date

The Plan was established in 1951. Act 91 of March 29, 2004 superseded Act 218 of May 6, 1951. The plan was last amended under Act 114, approved July 5, 2011.

3. Eligibility for Membership

Members of the Teacher's Retirement System of Puerto Rico include teachers hired by the Department of Education, retired teachers, licensed teachers working in private schools or other educational organizations who elect to become members, employees of the System hired before March 29, 2004 who elected to become members, and employees of the System hired on or after March 29, 2004 (Act 91, Section 15).

4. Definitions

- a. Fiscal Year: A Fiscal Year is a 12-month period beginning on July 1 and ending on June 30.
- b. Fund: The Teacher's Annuities and Pensions Fund of Puerto Rico (Act 91, Section 2).
- c. General Fund: The General Expenses Budget of the Government of the Commonwealth of Puerto Rico.
- d. Creditable Service: A year of service for each fiscal year a teacher or an employee is a Member of the Retirement System and required contributions were made (Act 91, Section 27) plus purchased service, if any (Act 91, Sections 21 and 22).

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VIII – SUMMARY OF PRINCIPAL PLAN PROVISIONS AS OF JUNE 30, 2013

- e. Compensation: The gross cash compensation, excluding bonuses and overtime, upon which contributions by a Member to the Fund are based (Act 91, Section 2).
 - f. Average Compensation: The average of the 36 highest months of compensation that the participant has received for Creditable Service (Act 91, Section 2).
 - g. Average Non-occupational Disability Compensation: The average of the 60 highest months of compensation that the participant has received. (Act 91, Sections 29 and 31).
 - h. Average Occupational Disability Compensation: The average of the 60 highest months of compensation that the participant has received. If less than 60 months of creditable service, the average of the monthly compensation that the participant has received. (Act 91, Section 29).
 - i. Fees or Contributions: The amount deducted from the compensation of a Member or directly paid to the System (Act 91, Section 2).
 - j. Accumulated Fees or Contributions: The sum of all amounts deducted from the compensation of a Member or directly paid to the System without interest (Act 91, Section 2).
5. Retirement Benefits
- a. Retirement because of age

Eligibility: Age 60 with 10 years of Creditable Service (Act 91, Section 28).

Benefit: Members who retire because of age shall be entitled to a lifetime monthly income equal to 1.8% of Average Compensation multiplied by years of Creditable Service (Act 91, Section 40). In no event will the benefit determined be less than the Minimum Benefit.

Additional Contributions required: None.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VIII – SUMMARY OF PRINCIPAL PLAN PROVISIONS
AS OF JUNE 30, 2013

b. Retirement because of age and years of service

Eligibility: Age 47 with 25 years of Creditable Service (Act 91, Section 40).

Benefit: Members who retire because of age and years of service shall be entitled to a lifetime monthly income based on age and years of Creditable Service as shown below (Act 91, Section 40). In no event will the benefit determined below be less than the Minimum Benefit.

Attained Age	Years of Creditable Service	Lifetime Monthly Income
55	30	75% of Average Compensation
50	30	75% of Average Compensation
Under 50	30	65% of Average Compensation
50	25 but less than 30	1.8% of Average Compensation multiplied by years of Creditable Service
47 but less than 50	25 but less than 30	95% of 1.8% of Average Compensation multiplied by years of Creditable Service

Additional Contributions required: If a member retires at age 55 or older with at least 30 years of Creditable Service, no additional contributions are required. Members who have not attained age 55 and 30 years of Creditable Service at retirement must contribute to the Fund 9% of the Average Compensation on a monthly basis for a minimum period of 5 years after retiring because of age and years of service (Act 91, Section 40). Current administrative practice requires contributions until attainment of both age 55 and the date when 30 years of Creditable Service would have been completed if employment had continued.

6. Termination Benefits

a. Lump Sum Withdrawal

Eligibility: A Member is eligible upon termination of service.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VIII – SUMMARY OF PRINCIPAL PLAN PROVISIONS AS OF JUNE 30, 2013

Benefit: The benefit equals a refund of Accumulated Fees, plus interest accumulated at 2.0% per annum for a period no longer than 6 months following separation of service (Act 91, Section 19).

b. Deferred Retirement

Eligibility: A Member is eligible upon termination of service prior to age 60 and after 10 years of Creditable Service, provided the member has not taken a lump sum withdrawal.

Benefit: The benefit, commencing at age 60, is equal to 1.8% of Average Compensation multiplied by years of Creditable Service at date of termination (Act 91, Section 40). In no event will the benefit determined be less than the Minimum Benefit.

7. Death Benefits

a. Pre-retirement Death Benefit

Eligibility: Any current non-retired member is eligible.

Benefit: The benefit is as follows:

- (i) While in active service, the benefit equals a refund of Accumulated Fees, plus interest accumulated at 2.0% per annum until the date of death; plus an amount equal to one year of Compensation in effect at the time of death (Act 91, Section 34).
- (ii) While not in active service, the benefit equals a refund of Accumulated Fees, plus interest accumulated at 2.0% per annum up to separation of service (Act 91, Sections 2 and 33).

b. Post-retirement Death Benefit

Eligibility: Any retiree or disabled member receiving a monthly benefit.

Benefit: The benefit is as follows:

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

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- (i) For those married at the time of death, the lifetime annual income to a widow or widower is equal to 50% of the Retirement Benefit at time of death, payable for life (Act 91, Section 35).
- (ii) For those with children at the time of death, the total lifetime annual income to all children is equal to 50% of the Retirement Benefit at time of death. The benefit is payable while the children are under age 6 or are currently enrolled in a regular public or private school or college program until the age of 22, and it is payable for life while they are disabled (Act 91, Section 35).
- (iii) The benefit, when there is no relation as stated above, is equal to the remaining balance of Accumulated Fees with interest (interest is determined as of the date of retirement if retired directly from active service or as of separation of service otherwise) after the deduction of lifetime annual income paid and is payable to a beneficiary or to the Member's estate. In no case shall the benefit be less than \$1,000. The General Fund pays the difference, up to \$500, between (1) the Accumulated Fees with interest less the lifetime annual income paid and (2) \$1,000. The System pays for the rest. (Act 91, Section 35 and Act 272)

8. Disability Benefits

a. Non-occupational Disability

Eligibility: All members are eligible for Non-occupational Disability upon 5 years of Creditable Service and the occurrence of disability (Act 91, Section 31).

Benefit: 1.8% of Average Non-occupational Disability Compensation multiplied by years of Creditable Service (Act 91, Section 29). In no event will the benefit determined be less than the Minimum Benefit.

b. Occupational Disability

Eligibility: All members disabled while in the course and as a consequence of their work. (Act 91, Section 31).

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VIII – SUMMARY OF PRINCIPAL PLAN PROVISIONS AS OF JUNE 30, 2013

Benefit: 1.8% of Average Occupational Disability Compensation multiplied by years of Creditable Service (Act 91, Section 29). In no event will the benefit determined be less than the Minimum Benefit.

9. Minimum Benefits

- a. Past Ad hoc Increases: The legislature, from time to time, increases pensions for certain retirees as described in Act 124 approved on June 8, 1973 and Act 47 approved on June 1, 1984. The benefits are paid 50% by the General Fund and 50% by the System.
- b. Current Minimum Benefit: The minimum monthly lifetime income for members who retire or become disabled is \$400 per month effective July 1, 2007 (\$300 per month up to June 30, 2007). The General Fund will pay for the \$100 per month increase in the minimum benefit (Act 91, Section 25 and Act 38 of 2007, Section 3).

10. Cost-of-Living Adjustments (COLA) to Pension Benefits: The legislature, from time to time, increases pensions by 3% for retired and disabled members. Beneficiaries are not entitled to COLAs granted after the retiree's death. The first increase was granted by Act 62 of 1992. Subsequent 3% increases have been granted every third year since 1992, with the latest 3% increase established on April 24, 2007 and effective July 1, 2007 (retroactive to January 1, 2007) for retired and disabled members that were receiving a monthly benefit on or before January 1, 2004 (Act 38). In addition, effective July 1, 2008, any retired or disabled member that was receiving a monthly annuity on or before January 1, 2004 less than \$1,250 per month received an increase of up to 3% without exceeding the limit of \$1,250 per month (Act 38). All COLAs are paid by the General Fund (various Acts).

11. Medical Insurance Plan Contribution: A payment of up to \$100 per month to the eligible medical insurance plan selected by the retiree or disabled member. This benefit is paid by the General Fund (Act 483).

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VIII – SUMMARY OF PRINCIPAL PLAN PROVISIONS AS OF JUNE 30, 2013

12. Special “Bonus” Benefits:

- a. Christmas Bonus: An annual bonus of \$600 for each retiree and disabled member paid in December. The System pays \$150 per retiree and disabled member and the balance is paid by the General Fund (Act 144).
- b. Summer Bonus: An annual bonus of \$100 for each retiree, beneficiary, and disabled member paid in July. The amount is prorated if there are multiple beneficiaries. This benefit is paid by the General Fund (Act 38 in 2001).
- c. Medication Bonus: An annual bonus of \$100 for each retiree, beneficiary, and disabled member to cover health costs paid in July. Evidence of coverage is not required. The amount is prorated if there are multiple beneficiaries. This benefit is paid by the General Fund (Act 162).

13. Forms of Payment

The basic pension benefits described in the above sections are payable in the form of a cash refund annuity. Optional benefits are provided upon a member’s death to the surviving beneficiaries as described in 7.b.

14. Contributions

Member Contributions: Contributions by Members are 9% of Compensation (Act 91, Section 16). Before January 27, 2000, member contributions were 7% of Compensation.

Employer Contributions: Contributions by the Commonwealth of Puerto Rico and private school employers, as applicable, are 9.5% of Compensation for the fiscal year beginning July 1, 2011. For the next four fiscal years effective July 1, employer contributions will increase annually by 1%. For the next five fiscal years, employer contributions will increase annually by 1.25%, reaching an employer contribution rate of 19.75% effective July 1, 2020. (Act 91, Section 47 as amended by Law 114 of 2010) Prior to July 1, 2011, employer contributions were 8.5% of Compensation.

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SECTION VIII – SUMMARY OF PRINCIPAL PLAN PROVISIONS AS OF JUNE 30, 2013

15. Service Purchase: Active members with eligible service from prior employment may elect to purchase service in PRTRS. The cost of the purchase is calculated by applying the PRTRS statutory member and employer contribution rates to the member's salary during the years of service at the former employer. The amount due to member contributions is accumulated at 2% per year until the time of service purchase. If the service purchase is a time purchase and not an intergovernmental service transfer, the amount due to employer contributions is accumulated at 2% per year until the time of service purchase. Any amount not covered by asset transfers from the member's prior pension fund is payable by the member (Act 91, Sections 20, 21, 22, and 23).
16. Law 70 Retirement Incentive: During the 2010-2011 fiscal year, Law 70 provided for an early retirement incentive. Additional window periods occurred through December 31, 2012. Active members who had at least 15 years of service, but less than 30 years of service, were able to retire immediately with an enhanced benefit ranging from 37.5% to 50% of salary. This enhanced benefit is paid by the General Fund until the member reaches the later of age 55 or the date the member would have completed 30 years of service had the member continued working. The System will have the liability to pay the benefit after this time period. While the General Fund is paying the pension benefit to the member or any surviving beneficiary, the General Fund will also pay a contribution to the System equal to the employer contribution rate (11.50% for the 2013-2014 fiscal year) applied to final salary. The employer contribution rate applied to final salary increases as under Law 114 to an ultimate rate of 19.75% of payroll in 2020-2021 and thereafter. Members who retired under this incentive are not eligible to receive the Medical Insurance Plan Contribution.
17. Changes in Plan Provisions since Prior Valuation

This valuation reflects updated information provided by the System that beneficiaries are not eligible for the Medical Insurance Plan Contribution.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION IX – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2013

Interest: 6.25% per annum, net of investment expenses, for GASB 25 and 27. (8.00% prior to June 30, 2011, 6.40% as of June 30, 2011, and 5.95% as of June 30, 2012)
 3.25% per annum for GASB 45 (4.00% prior to June 30, 2012 and 3.20% as of June 30, 2012).

Compensation Increases: Compensation increases vary by years of creditable service as shown below. The rates below include the assumption for general wage inflation of 3.5%.

Years of Creditable Service	Increase in Annual Rate over Prior Year
1-5	5.70%
6	5.50
7	5.30
8	5.10
9	4.90
10	4.80
11	4.70
12	4.60
13	4.50
14	4.30
15	4.20
16	4.10
17-19	4.00
20	3.90
21	3.80
22	3.75
23	3.70
24-27	3.65
28	3.60
29 & Over	3.50

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION IX – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2013

Termination: Withdrawal rates vary by gender and years of creditable service. The withdrawal rates are shown below.

Years of Creditable Service	Male	Female
0	12.00%	15.00%
1	9.00	8.00
2	6.00	5.00
3	3.00	3.00
4	3.00	2.75
5	2.50	2.50
6	2.50	2.25
7	2.00	2.00
8	1.50	1.50
9	1.00	0.50
10+	0.10	0.05

Retirement: Rates of retirement vary by age and years of creditable service. The rates shown below apply when an active member is eligible for retirement (e.g. age 47 with at least 25 years of creditable service or age 60 with at least 10 years of creditable service).

Age	Less than 30 years of Creditable Service	30 or more years of Creditable Service
47-49	0.5%	20.0
50-54	2.0	25.0
55-59	5.0	30.0
60-61	10.0	25.0
62-64	12.0	25.0
65-79	15.0	25.0
80	100.0	100.0

Current terminated vested members were assumed to retire (i) at age 55, or attained age if later, if the member had at least 30 years of service or (ii) at age 60, or attained age if later, otherwise.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION IX – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2013

Service Purchases: Members over age 50 who are not eligible for retirement are assumed to elect to purchase enough service to retire immediately at the rates shown in the table below.

Age	Annual Rate
50-54	0.5%
55-59	1.0
60-64	2.0
65-79	8.0

In addition, 50% of active members retiring prior to attaining 30 years of creditable service are assumed to purchase enough years of service upon retirement to attain 30 years of creditable service.

Disability: Unisex rates which vary by age and years of creditable service are assumed. Illustrative rates are shown below.

Age	Less than 5 years of Creditable Service	5 or more years of Creditable Service
25	0.008%	0.013%
30	0.008	0.013
35	0.008	0.013
40	0.009	0.014
45	0.020	0.031
50	0.068	0.105
55	0.133	0.204
60 & Over	0.000	0.000

Members who become disabled after at least 30 years of service are assumed to receive the retirement for age and years of service benefit instead of the disability benefit.

Pre-retirement Mortality: RP-2000 Employee Mortality Rates for males and females, projected on a generational basis using Scale AA. As a generational table, it reflects mortality improvements both before and after the measurement date.

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Post-retirement Healthy Mortality: Rates which vary by gender are assumed for healthy retirees and beneficiaries based on a study of plan's experience from 2007 to 2012 equal to 92% of the rates from the UP-1994 Mortality Table for Males and 87% of the rates from the UP-1994 Mortality Table for Females. The rates are projected on a generational basis starting in 1994 using Scale AA. As a generational table, it reflects mortality improvements both before and after the measurement date.

Post-retirement Disabled Mortality: Rates which vary by gender are assumed for disabled retirees based on a study of plan's experience from 2007 to 2012 equal to the rates in the UP-1994 Mortality Table for males and females. No provision was made for future mortality improvement for disabled retirees.

Marriage: 65% of current active and terminated members are assumed to be married at retirement with males 3 years older than females.

Form of Payment: Future retired members are assumed to receive a joint and 50% survivor annuity if married and a modified cash refund (approximated by a single life annuity with 3 years certain) if not married.

Spousal information was not provided for current retired and disabled members. A 65% marriage assumption was applied to all current retirees and disabled members retroactively to the date of retirement or disability. The spouse's date of birth was imputed based on an assumed age difference of 3 years with males older than females. A 3-year certain period, retroactive to date of retirement or disability, is applied to approximate the cost of a modified cash refund for retirees without a surviving spouse.

No future dependent children were assumed to become beneficiaries.

Members who terminate employment with at least 10 years of service are assumed to elect to receive a deferred pension benefit in lieu of a refund of contributions.

Medical Insurance Plan Contribution: 85% of future and current retirees and disableds were assumed to receive a monthly medical insurance continuation benefit of \$100 per month.

Administrative Expenses: Average of past two year's expense is added to the normal cost. For 2013, this amount is \$23,691,000.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION IX – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2013

Special Data Adjustments: The following adjustments were made to the census data received from the System.

The entry age for active members was assumed to be the age as of June 30, 2013 less the provided years of creditable service. In addition, creditable service was limited such that no active member was hired prior to age 15.

If not provided by the System, benefits for new and continuing retired and terminated vested participants were estimated based on the years of credited service and earnings history available from prior valuations.

Refer to the Form of Payment assumption above for a description of spousal data imputation for current retired and disabled members.

If not provided by the System, the portion of the annual benefit payable to current beneficiaries attributable to past COLA adjustments was assumed to be 5% (and thus paid by the General Fund of the Commonwealth of Puerto Rico instead of the System).

Benefits for current beneficiaries who are under age 22 as of the valuation date were assumed to cease at age 22. Benefits for current beneficiaries who are age 22 or older as of the valuation data were assumed to be payable for life. In addition, the current level of benefit was assumed to remain constant.

Benefits not valued: The minimum post-retirement death benefit of \$1,000 for retirees without surviving beneficiaries is not explicitly valued. The additional liability associated with this benefit is expected to be de minimus.

Changes in actuarial assumptions since the prior valuation: The interest rate assumption for GASB 25 & 27 was increased from 5.95% to 6.25%. The interest rate assumption for GASB 45 was increased from 3.20% to 3.25%.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION X – SUMMARY OF ACTUARIAL METHODS AS OF JUNE 30, 2013

The ultimate cost of a pension plan is the excess of actual benefits and administrative expenses paid over actual net investment return on plan assets during the plan's existence until the last payment has been made to the last participant. The plan's "actuarial cost method" determines the expected incidence of actuarial costs by allocating portions of the ultimate cost to each plan year. The cost method is thus a budgeting tool to help to ensure that the plan will be adequately and systematically funded and accounted for. There are several commonly-used cost methods which differ in how much of the ultimate cost is assigned to each prior and future year. Therefore, the pattern of annual contributions and accounting expense varies with the choice of cost method. Annual contributions and accounting expense are also affected by the "asset valuation method" (as well as the plan provisions, actuarial assumptions, and actual plan demographic and investment experience each year).

Actuarial Cost Method

The plan's actuarial cost method is the entry age normal method. Under this method, a projected benefit is determined at each active participant's assumed retirement age assuming future compensation increases. The plan's normal cost is the sum of each active participant's annual cost for the current year of service determined such that, if it were calculated as a level percentage of his compensation each year, it would accumulate at the valuation interest rate over his total prior and future years of service to his assumed retirement date into an amount sufficient to fund his projected benefit. The plan's accrued liability is the sum of (a) the accumulation of each active participant's normal costs attributable to all prior years of service plus (b) the present value of each inactive participant's future benefits.

For the medical insurance plan contribution and the special bonus benefits administered by PRTRS and paid by the General Fund of the Commonwealth of Puerto Rico, the actuarial cost method is also the entry age normal method but the normal cost is determined as a level dollar amount instead of a level percentage of compensation. Under this variation, the normal cost is the sum of each active participant's annual cost for the current year of service determined such that, if it were calculated as a level amount each year, it would accumulate at the valuation interest rate over his total prior and future years of service to his assumed retirement date into an amount sufficient to fund his projected benefit.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION X – SUMMARY OF ACTUARIAL METHODS AS OF JUNE 30, 2013

Asset Valuation Method

The Actuarial Value of Assets is equal to the Market Value of Assets.

Changes in actuarial methods since the prior valuation: None.

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