



Pennsylvania Association of School Business Officials

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2008-2009 WORKSHOP SERIES

School Retirement Funding: The State in Crisis!

In one short year, the annual investment return for the PA School Employees Retirement System dramatically decreased from more than 20% to (2.82)%. For the current fiscal year, the system's return has plunged to (25%). The total employer contribution rate for the 2012-2013 fiscal year currently looms at a horrific 16.40%, but that rate does not take into consideration another negative market rate of return for the current fiscal year. PASBO believes that the 2012-2013 "spike" is likely to be more than 30% and stay at that level for several fiscal years. If the stock market does not rebound, the rate escalation could be worse. A very real crisis has developed that neither the State nor the LEAs can manage without intervention. Join this PASBO webcast for a discussion on what PSERS can do within the limits of the law and what the General Assembly, Administration and schools can and must do to counteract this pending crisis.

Date/Location

Monday, March 9 -- 1:00 to 3:45 PM
Half-day webcast to desktop

Speakers

Jeffrey Clay, Executive Director, Public School Employee Retirement System
Thomas Gentzel, Executive Director, Pennsylvania School Boards Association
Charles Peterson, PRSBA, Director of Cooperative Business Services & Operations, Central Susquehanna IU #16
Jay Himes, Executive Director, Pennsylvania Association of School Business Officials

Announcements

- **All participants are asked to complete the Webcast Attendance Form at the back of your handout packet so your attendance can be recorded. Forms must be returned to PASBO by March 16 for CEU, CPE and Act 48 credit to be given.**
- If you are disconnected at any time during the program, please repeat the two-step process to reconnect. Volume can be adjusted by using the *4 command on your phone.
- You have two options for asking questions
 - Use the "Chat" function at the left side of your screen – type your question in the message box under the gray bar and hit "send." You can send a question at any time during the program.
 - To ask a question by email, send your email to cshearer@pasbo.org
- Individuals requesting CPE or Act 48 credits will receive a certificate by mail and Act 48 credits will be uploaded to the PDE site. PASBO Professional Registration CEUs will be automatically uploaded to the PASBO website. To print a Course Transcript, go to the Education section at www.pasbo.org.
- Your evaluation of this program is important to us. The primary contact will receive an evaluation form via email. Please provide your feedback to ensure that PASBO programs are meeting your needs.
- This program is being recorded to provide access to those not able to participate in the live program.
- Your personal commitment to learning is rewarded through the "PASBO Best Customer Rewards Program." Pay for and attend PASBO workshops and earn credits that can be used to attend another program for free! For more information, see the Best Customer Rewards Sheet available in the Education/Workshop Series section at www.pasbo.org.

Thank you for your participation.

Pennsylvania Association of School Business Officials

School Retirement Funding: The State In Crisis!

**March 9, 2009
1:00 PM**



For the audio portion of the program, join us at
1.800.977-8002 (Participant Code 487281#)
Pressing *4 will increase the volume.



Pennsylvania Association of School Business Officials
Developing educational leaders in school operations.

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Speakers

- Jeffrey Clay, Executive Director, Public School Employee Retirement System
- Thomas Gentzel, Executive Director, Pennsylvania School Boards Association
- Charles Peterson, PRSBA, Director of Cooperative Business Services & Operations, Central Susquehanna IU #1
- Jay Himes, Executive Director, Pennsylvania Association of School Business Officials



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Framing the Crisis: An Update on PSERS



**Pennsylvania Association of School Business Officials
March 9, 2009**

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Agenda

- **PSERS' Overview**
- **The Market- How bad is it?**
- **Status of PSERS' investments**
- **What is looming in the Future?**
 - **Current Employer Contribution Rate**
 - **Projected Employer Contribution Rate Spike**
- **State Remedies – What are potential options?**

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PSERS' Overview



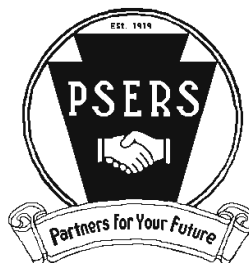
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PSERS' Overview

- The Public School Employees' Retirement System (PSERS) is a governmental, (non ERISA), mandatory, multi-employer, defined benefit pension plan for Pennsylvania school employees
- PSERS was established on July 18, 1917 and thus is one of the oldest public pension plans in the United States
 - PSERS "plan document" is the Public School Employees' Retirement Code, 24 Pa.C.S. §8101 *et. seq.*
- PSERS is governed by a 15 person Board of Trustees, and has a complement of 310 employees
 - 2009- Changes in legislators and State Treasurer who serve on PSERS board
- PSERS serves over 547,000 members

PSERS currently manages assets of approximately \$45.4 billion as of December 31, 2008

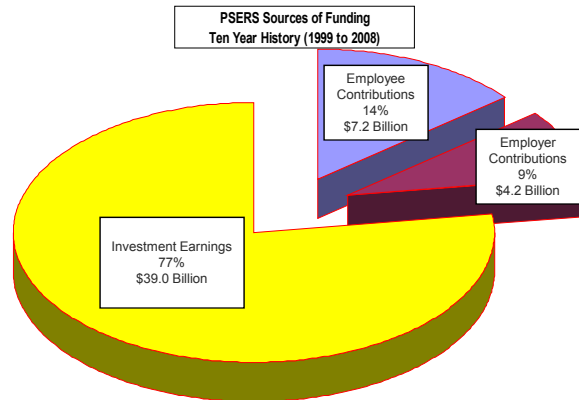
PSERS is the 12th largest state sponsored defined benefit pension fund in the nation according to *Pensions and Investments Magazine*



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PSERS' Overview

- **PSERS is funded by three sources:**
 - **Employee Contributions,**
 - **Employer Contributions, and**
 - **Investment Earnings**
- **Investment earnings have been the primary source of funding for PSERS benefits, dwarfing the contributions from both school employers and PSERS active members**



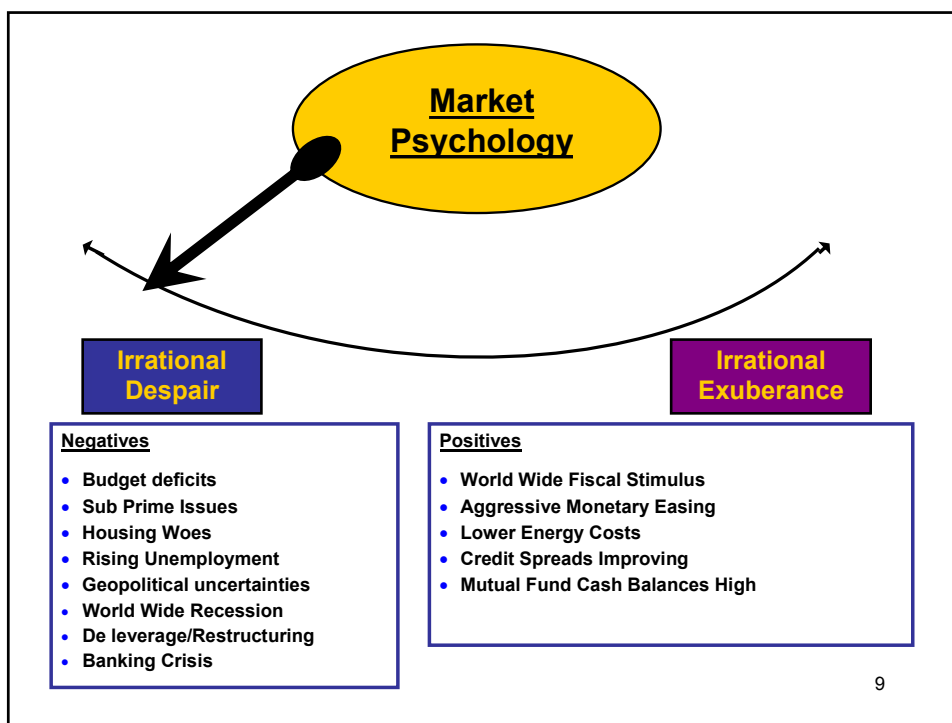
Over the last 25 years, 17% of PSERS' funding has come from school employers. Another 12% has come from PSERS' active members. All the rest – 71% – has come from investment earnings

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The Market: How bad is it?



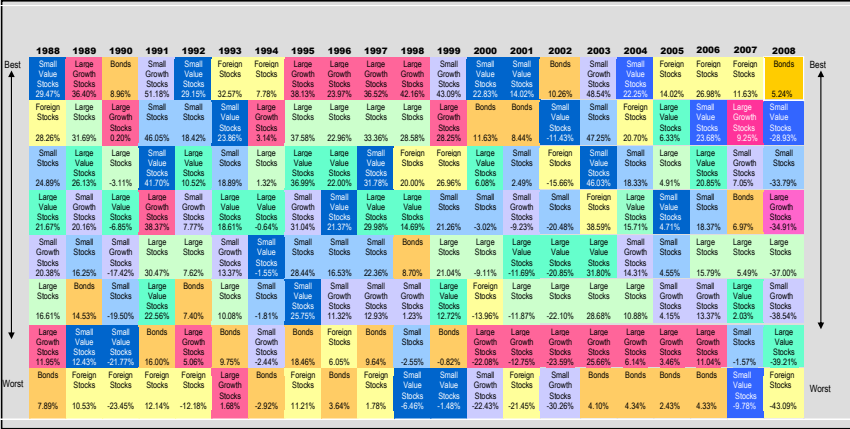
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| MARKET REVIEW 12/31/07 – 12/31/08 | | | | | | |
|-----------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------------------|-------------------------|
| | <u>12/31/07</u> | <u>06/30/08</u> | <u>09/30/08</u> | <u>12/31/08</u> | <u>4th QTR % Change</u> | <u>YTD % Change</u> |
| DJIA | 13,264.82 | 11,350.01 | 10,850.66 | 8,776.39 | -19.12% | -33.84% |
| S & P 500 | 1,468.36 | 1,280.00 | 1,164.74 | 903.25 | -22.45% | -38.49% |
| NASDAQ | 2,652.28 | 2,292.98 | 2,082.33 | 1,577.03 | -24.27% | -40.54% |
| Russell 2000 | 766.03 | 689.66 | 679.58 | 499.45 | -26.51% | -34.80% |
| DJ WORLD (xUS) | 271.84 | 241.87 | 188.17 | 146.76 | -22.01% | -46.01% |
| 10 Year Treasury | 4.03% | 3.98% | 3.83% | 2.25% | -158 bp | -178bp |
| 3 Month Treasury | 3.24% | 1.74% | 0.91% | 0.09% | -82 bp | -315bp |
| DJ Corp Bond Index | 205.72 | 205.97 | 194.31 | 209.43 | +7.78% | +1.80% |
| DJ AIG Commodity | 184.96 | 233.03 | 167.77 | 117.24 | -30.12% | -38.61% |

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Annual Total Returns of Key Asset Classes 1988 – 2008



Source: Standard & Poor's Micropal. Large Stocks are represented by the S&P 500; Large Growth Stocks are represented by S&P 500/BARRA Growth Index;  Large Value Stocks are represented by the S&P 500/BARRA Value Index;  Small Stocks are represented by the Russell 2000 Index;  Small Growth Stocks are represented by the Russell 2000 Growth Index;  Small Value Stocks are represented by the Russell 2000 Value Index;  Foreign Stocks are represented by the MSCI EAFE Index; and  Bonds are represented by the Lehman Brothers Aggregate Bond Index.

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2008
Eight Days to Remember *

June 6 -

Oil, Unemployment Soar

Dow closed at 12,209.51

Change in Points (394.64)

Percentage Change (3.13%)

- Worst Day (YTD) as oil jumped \$10.75 to \$138.54/bbl.
- Unemployment jumped to 5.5% from 5.0%

September 15 -

Lehman Collapses

Dow closed at 10,917.51

Change in Points (504.48)

Percentage Change (4.42%)

- Lehman declares bankruptcy
- AIG seeks government aid
- WAMU rumors

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2008 Eight Days to Remember * Continued

- September 29 - Dow's Biggest Point Loss Ever**
 Dow closed at 10,365.45
 Change in Points (777.68)
 Percentage Change (6.98%)
 - House rejects \$700 billion financial sector bailout bill
- October 9 - Volatility Spikes**
 Dow closed at 8,579.19
 Change in Points (678.91)
 Percentage Change (7.33%)
 - Worst Day in an eight-day slide
 - Treasury announces that it would purchase equity stakes in banks
 - CBOE volatility index rises to 64, the first time over 60

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2008 Eight Days to Remember * Continued

- October 13 - Biggest Gain Ever Stops 2,400 Point Slide**
 Dow closed at 9,387.61
 Gain in points +936.42
 Percentage change +11.1%
 - Stocks rally after a series of global initiatives aimed at stimulating the economy
 - 15 European Banks agreed to inject capital and pump \$63 billion into 3 of the country's banks
- October 15 - Biggest Percentage Decline Since 1987**
 Dow closed at 8,577.91
 Change in Points (733.08)
 Percentage Change (7.87%)
 - Ninth largest percentage decline ever due to gloomy economic reports
 - Retail sales suffered their largest drop in three years

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2008 Eight Days to Remember * Continued

November 5 & 6- After Obama wins, Dow plunges

Dow closed at 8,695.79

Change in Points (929.49)

Percentage change (9.66%)

- Stocks rose more than 300 points on Election Day but sold off on unemployment news as claims rose and the labor department reported that 1.2 million jobs have been lost.

December 1 - It's a Recession

Dow closed at 8,149.00

Change in Points (679.95)

Percentage Change (7.7%)

- The Bureau of Economic Research announced that the economy is in a recession. Economists predict the recession could last well into 2009.
- Holiday retail sales data point to a soft holiday period.

*Data obtained from CNN

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Dow's Jones Industrial Average 10 Worst Years

| <u>DATE</u> | <u>CLOSE</u> | <u>NET CHANGE</u> | <u>% CHANGE</u> |
|-------------|--------------|-------------------|-----------------|
| 1931 | 77.90 | -86.68 | -52.7% |
| 1907 | 58.75 | -35.60 | -37.7% |
| 2008 | 8,776.39 | -4,488.43 | -33.8% |
| 1930 | 164.58 | -83.90 | -33.8% |
| 1920 | 71.95 | -35.28 | -32.9% |
| 1937 | 120.85 | -59.05 | -32.8% |
| 1974 | 616.24 | -234.62 | -27.6% |
| 1903 | 49.11 | -15.18 | -23.6% |
| 1932 | 59.93 | -17.97 | -23.1% |
| 1917 | 74.38 | -20.62 | -21.7% |

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- **In addition, 2008 was a year in turmoil that personally impacted**
 - **Your House**
 - **Your Investments**
 - **Your Job**

- **2009 outlook has not improved**
 - **Slow recovery expected**

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WORST JANUARY IN S & P 500 HISTORY

S & P 500 JANUARY HISTORY

| <u>MONTH</u> | <u>% CHANGE</u> | <u>WORST</u> |
|----------------|-----------------|--------------|
| 01/2009 | - 8.57% | 1 |
| 01/1970 | -7.65% | 2 |
| 01/1960 | -7.15% | 3 |
| 01/1939 | -6.89% | 4 |
| 01/1990 | -6.88% | 5 |
| 01/1978 | -6.15% | 6 |
| 01/2008 | -6.12% | 7 |
| 01/2000 | -5.09% | 8 |
| 01/1977 | -5.05% | 9 |
| 01/1941 | -4.82% | 10 |

Source: S&P

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Bear Markets S&P 500

| PEAK (START OF BEAR MARKET) | INDEX | BOTTOM (END OF BEAR MARKET) | INDEX | DURATION MONTHS | TOTAL DECLINE |
|--|----------|--------------------------------|--------|--------------------|------------------|
| DATE | | DATE | | | |
| March 6, 1937 | 18.68 | April 29, 1942 | 7.47 | 62 | -60.0% |
| May 29, 1946 | 19.25 | June 14, 1949 | 13.55 | 37 | -29.6 |
| August 2, 1956 | 49.64 | October 22, 1957 | 38.98 | 15 | -21.5 |
| December 12, 1961 | 72.64 | June 27, 1962 | 52.32 | 6 | -28.0 |
| February 9, 1966 | 94.06 | October 7, 1966 | 73.20 | 8 | -22.2 |
| November 29, 1968 | 108.37 | May 26, 1970 | 69.29 | 18 | -36.1 |
| January 11, 1973 | 120.24 | October 3, 1974 | 69.28 | 21 | -48.2 |
| November 18, 1980 | 140.52 | August 12, 1982 | 102.42 | 20 | -27.1 |
| August 25, 1987 | 336.77 | December 4, 1987 | 223.92 | 3 | -33.5 |
| July 16, 1990 | 368.95 | October 11, 1990 | 295.46 | 3 | -19.9 |
| March 24, 2000 | 1,527.46 | October 9, 2002 | 776.76 | 31 | -49.1 |
| AVERAGE (Excludes 10/09/07 - 02/23/09 period noted below) | | | | 19 | -34.1 |
| October 9, 2007 | 1,565.12 | February 23, 2009 | 743.33 | 16 | -52.5 |

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Source: Standard & Poor's Index Services

Status of PSERS' Investments



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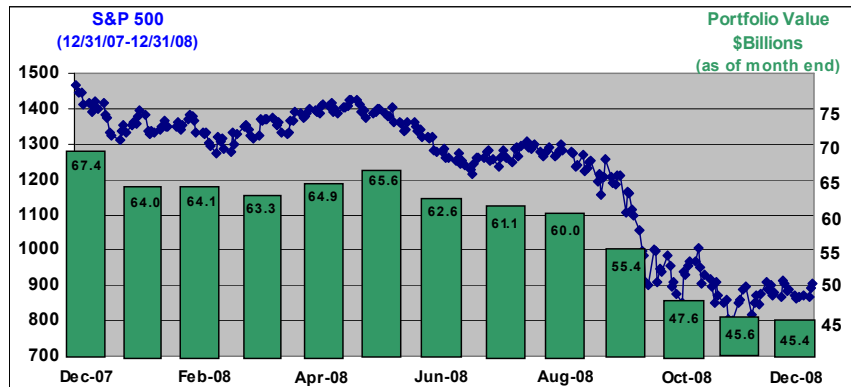
PSERS' Net Plan Assets as of:

| | |
|---------------------------|-----------------------------------|
| June 30, 2002 | \$43.6 Billion (audited) |
| March 31, 2003 | \$38.3 Billion (unaudited) |
| June 30, 2003 | \$42.5 Billion (audited) |
| June 30, 2004 | \$48.5 Billion (audited) |
| June 30, 2005 | \$52.1 Billion (audited) |
| June 30, 2006 | \$57.0 Billion (audited) |
| June 30, 2007 | \$67.5 Billion (audited) |
| June 30, 2008 | \$62.7 Billion (audited) |
| September 30, 2008 | \$54.7 Billion (unaudited) |

* As of December 31, 2008 the net assets were estimated at \$45.4 billion (unaudited)

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PSERS Estimated Portfolio Value



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Deja vu

| <u>PRIOR PEAK</u> | <u>PRIOR TROUGH</u> | <u>CHANGE IN NAV</u> | <u>% CHANGE</u> |
|-----------------------|-------------------------|--------------------------|-----------------|
| 8/2000 \$54.7b | 3/2003 \$38.3b | \$-16.4b | - 30% |

| <u>PRIOR TROUGH</u> | <u>PRIOR PEAK</u> | <u>CHANGE IN NAV</u> | <u>% CHANGE</u> |
|-------------------------|-----------------------|--------------------------|-----------------|
| 3/2003 \$38.3b | 10/2007 \$70.1b | +\$31.8b | +83% |

| <u>CURRENT PEAK</u> | <u>CURRENT TROUGH</u> | <u>CHANGE IN NAV</u> | <u>% CHANGE</u> |
|-------------------------|---------------------------|--------------------------|-----------------|
| 10/2007 \$70.1b | 1/2009 \$43.5b | \$-26.6b | -38% |

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LARGEST STATE SPONSORED DEFINED BENEFIT SYSTEMS (Millions)

| | <u>2008*</u> | <u>2007*</u> | <u>CHANGE NAV</u> |
|-----------------------------|--------------|--------------|-------------------|
| 1. CALPERS | \$213,519 | \$253,551 | \$-40,032 |
| 2. CALSTRS | 147,021 | 176,098 | -29,077 |
| 3. NEW YORK STATE COMM. | 138,425 | 164,363 | -25,938 |
| 4. FLORIDA | 114,510 | 138,439 | -23,929 |
| 5. TEXAS TEACHERS | 95,982 | 114,878 | -18,896 |
| 6. NEW YORK STATE TEACHERS | 88,487 | 106,042 | -17,555 |
| 7. WISCONSIN INVESTMENT BD. | 72,493 | 89,328 | -16,835 |
| 8. NEW JERSEY | 70,826 | 82,780 | -11,954 |
| 9. NORTH CAROLINA | 65,924 | 77,384 | -11,460 |
| 10. OHIO STATE TEACHERS | 62,611 | 78,311 | -15,700 |
| 11. OHIO PUBLIC EMPLOYEES | 57,940 | 84,123 | -26,183 |
| 12. PSERS | 54,666 | 68,678 | -14,012 |

* As of September 30, 2008

SOURCE: Pensions & Investments

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PSERS' Investment Rates of Return as of:

- FY 1999/2000 - 11.9%
- FY 2000/2001 - (7.4)%
- FY 2001/2002 - (5.3)%
- FY 2002/2003 - 2.7%
- FY 2003/2004 - 19.67%
- FY 2004/2005 - 12.87%
- FY 2005/2006 - 15.26%
- FY2006/2007 - 22.93%
- FY 2007/2008 - (2.82)%

Below PSERS' annual actuarial earnings assumption of 8.5%, therefore resulting in an actuarial loss

As of December 31, 2008
estimated calendar year
rate of return was
(29.68)%

As of December 31, 2008
estimated fiscal year
rate of return was
(25.50)%

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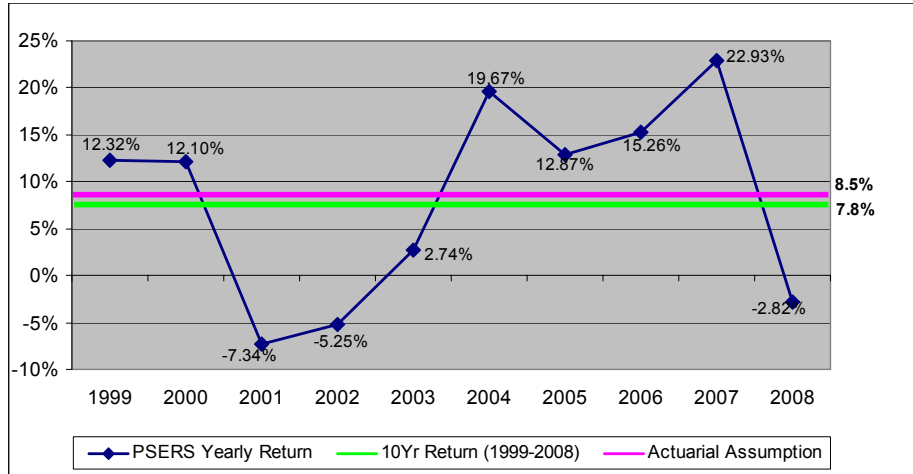
PSERS Total Net Investment Income

- FY 1999/2000 - \$5,765,133
- FY 2000/2001 - (\$3,843,713)
- FY 2001/2002 - (\$2,523,025)
- FY 2002/2003 - \$1,022,467
- FY 2003/2004 - \$8,244,604
- FY 2004/2005 - \$6,081,497
- FY 2005/2006 - \$7,942,639
- FY 2006/2007 - \$12,702,721
- FY 2007/2008 - (\$1,775,585)

■ TOTAL \$33,616,738 net investment gain

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PSERS Fiscal Year Returns 1999-2008



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PSERS Performance Comparison Total Returns of Total Fund Public Plans Periods Ended 12/31/08

| | <u>Q</u> | <u>FYTD</u> | <u>YEAR</u> | <u>2 YEARS</u> | <u>3 YEARS</u> | <u>5 YEARS</u> | <u>10 YEARS</u> |
|----------------------------|-------------|-------------|-------------|----------------|----------------|----------------|-----------------|
| PSERS (Rank) | -16.25 (93) | -25.50 (97) | -29.68 (93) | -10.54 (66) | -1.88 (39) | 3.88 (7) | 4.15 (14) |
| Policy Index (Rank) | -13.48 (63) | -22.09 (79) | -25.57 (70) | -9.37 (53) | -1.79 (37) | 2.95 (24) | 2.99 (43) |
| Bp Difference | -277 | -341 | -411 | -117 | -9 | 93 | 116 |
| Median | -11.95 | -18.65 | -23.47 | -9.25 | -2.26 | 1.60 | 2.83 |
| Bp Difference | -430 | -685 | -621 | -129 | 38 | 228 | 132 |
| # of Funds | 118 | 117 | 116 | 114 | 112 | 103 | 74 |

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What is Looming in the Future?



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Current Employer Contribution Rate



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Employer Contribution Rate

- **Current employer contribution rate**
 - The FY 2008/2009 rate is 4.76%
 - The 4.76% rate is composed of a 0.76% rate for health insurance premium assistance and a pension rate of 4.00%
- **The Commonwealth reimburses school employers for not less than 50% of the employer contribution rate**
 - Statewide average is 54/46% split with the Commonwealth paying 54%

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Employer Contribution Rate

- **The employer contribution rate for FY 2009/2010 was certified at the PSERS' Board meeting on December 12, 2008**
 - The FY 2009/2010 rate is 4.78%
 - The 4.78% rate is composed of a 0.78% rate for health insurance premium assistance and a pension rate of 4.00%
 - The pension component of the employer contribution rate has been below the employer normal cost for 12 years
 - The "employer normal cost" is the amount needed from the school employers to fund the benefits earned by the active members for that year
 - It can be thought of as the minimum payment that would be made by school employers if the System's actual experience perfectly matched its economic and demographic operating assumptions

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Employer Contribution Rate

- At its January 23, 2009 meeting, the Board changed the actuarial investment rate of return assumption for the Fund
 - Effective for the June 30, 2008 actuarial valuation the investment rate of return assumption shall be reduced from 8.50% to 8.25%
 - Effective for the June 30, 2009 actuarial valuation the investment rate of return assumption shall be reduced from 8.25% to 8.00%
- **NOTE: The employer contribution rate for FY 2009/2010 will not be affected by the change in the rate of return assumption**
 - PSERS' funded status and the projected rate spike in FY 2012/2013 will be affected by this change
 - PSERS' funded status is 86.0% as of June 30, 2008, up from 85.8% as of June 30, 2007

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Employer Contribution Rate

- Lowering the investment rate of return assumption is an important step because:
 - It provides additional transparency about PSERS' funded status and will provide a more accurate picture for future legislative efforts to resolve the employer contribution rate spike
 - While PSERS has always take a long term perspective on its return assumption, the extent, the speed, and global nature of the current downturn appears to be historic and an indicator of a turning point for the US and global economy
 - PSERS had one of the highest return assumptions in the country and these changes bring PSERS to the median return assumption that is used by most public pension funds
 - It results in increased employer contributions prior to the projected rate spike and thus provides additional liquidity to PSERS
 - It marginally reverses the artificial suppression of the employer contribution rate below the normal cost notwithstanding unfunded liability
 - It mitigates the current negative arbitrage caused by this suppression and actually results in some pre-payment of the unfunded liability before FY 2012/2013

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Projected Employer Contribution Rate Spike



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Employer Contribution Rate Spike

■ Rate Spike Estimate

- Based on December 12, 2008 Board meeting the estimate for the FY 2012/2013 rate spike was 16.40% (based on the June 30, 2008 actuarial valuation)
- Based on the January 23, 2009 Board meeting and the changes to the investment rate of return assumption, the estimate for the FY 2012/2013 rate spike is 20.16% (based on the June 30, 2008 actuarial valuation)
- The projected rate spike in FY 2012/2013 is still below the original rate spike of 27.73%

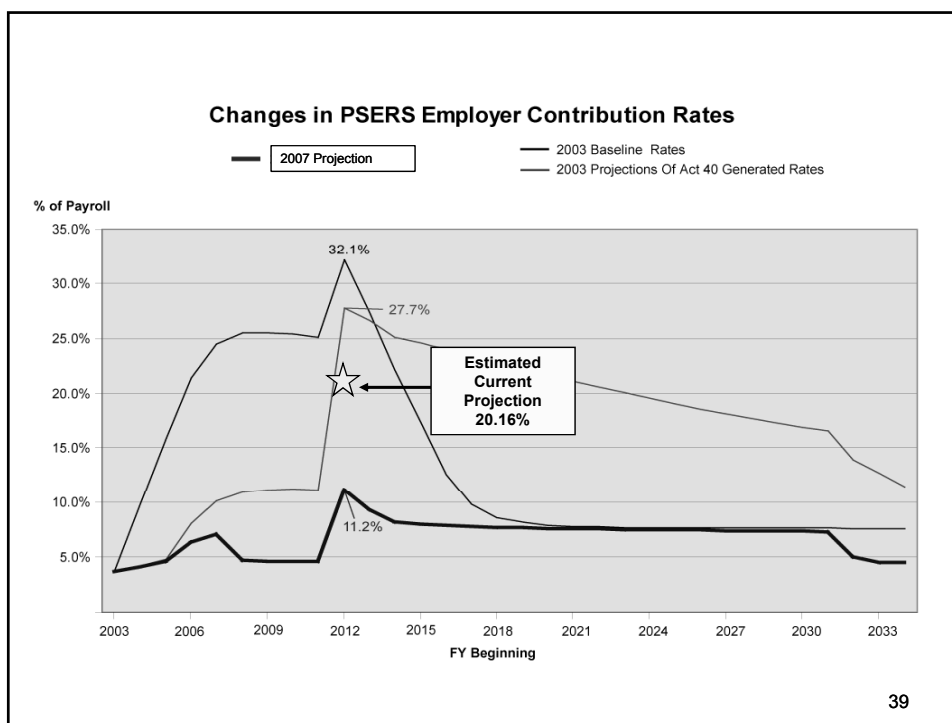
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| Public School Employees' Retirement System of Pennsylvania Projection of Contribution Rates and Funded Ratios As of June 30, 2008 Market Returns and Pension Rate Floors Set by User Contributions Determined under Current Law | | | | | | | | | | | | |
|--|---|---|--------------------------|----------------------------------|----------------------------|-------------------------------|---|--------------------------------|---|-----------------|---|--|
| Fiscal Year Ending June | Appropriation Payroll (thousands) | Fiscal Year Market Rate of Return | Pension Rate Floor | Employee Contribution Rate | Employer Normal Cost | Unfunded Liability Rate | Preliminary Employer Pension Rate | Health Care Contribution | Total Employer Contribution Rate | Funded Ratio | Unfunded Accrued Liability (\$ Millions) | |
| 2007 | \$ 11,821,951 | 22.93 % | 4.00 % | 7.21 % | 6.62 % | (0.95) % | 5.67 % | 0.74 % | 6.46 % | 85.8 % | \$ 9,438.0 | |
| 2008 | 12,881,244 | (2.82) | 4.00 | 7.25 | 6.68 | (0.24) | 6.44 | 0.69 | 7.13 | 87.9 | 8,376.0 | |
| 2009 | 12,500,000 | 8.50 | 4.00 | 7.29 | 6.68 | (3.37) | 3.31 | 0.76 | 4.76 | 88.9 | 7,966.5 | |
| 2010 | 12,899,000 | 8.50 | 4.00 | 7.32 | 6.66 | (4.75) | 1.91 | 0.78 | 4.78 | 89.5 | 7,862.2 | |
| 2011 | 13,297,917 | 8.50 | 4.00 | 7.34 | 6.61 | (5.78) | 0.83 | 0.76 | 4.76 | 89.0 | 8,492.6 | |
| 2012 | 13,703,700 | 8.50 | 4.00 | 7.36 | 6.58 | (6.63) | (0.05) | 0.75 | 4.75 | 86.5 | 10,860.4 | |
| 2013 | 14,132,543 | 8.50 | 4.00 | 7.38 | 6.55 | 9.11 | 15.66 | 0.74 | 16.40 | 87.3 | 10,504.0 | |
| 2014 | 14,586,335 | 8.50 | 4.00 | 7.40 | 6.52 | 8.81 | 15.33 | 0.73 | 16.06 | 88.2 | 10,147.7 | |
| 2015 | 15,066,759 | 8.50 | 4.00 | 7.41 | 6.51 | 7.64 | 14.15 | 0.72 | 14.87 | 88.8 | 9,900.7 | |
| 2016 | 15,573,822 | 8.50 | 4.00 | 7.43 | 6.48 | 7.41 | 13.89 | 0.70 | 14.59 | 89.5 | 9,615.0 | |
| 2017 | 16,119,772 | 8.50 | 4.00 | 7.44 | 6.46 | 7.19 | 13.65 | 0.69 | 14.34 | 90.2 | 9,278.9 | |
| 2018 | 16,711,215 | 8.50 | 4.00 | 7.45 | 6.44 | 6.95 | 13.39 | 0.66 | 14.05 | 90.9 | 8,909.9 | |
| 2019 | 17,349,067 | 8.50 | 4.00 | 7.46 | 6.42 | 6.70 | 13.12 | 0.65 | 13.77 | 91.6 | 8,507.3 | |
| 2020 | 18,031,134 | 8.50 | 4.00 | 7.46 | 6.41 | 6.45 | 12.86 | 0.63 | 13.49 | 92.3 | 8,069.0 | |
| 2021 | 18,751,940 | 8.50 | 4.00 | 7.47 | 6.39 | 6.20 | 12.59 | 0.63 | 13.22 | 93.0 | 7,592.6 | |
| 2022 | 19,513,328 | 8.50 | 4.00 | 7.47 | 6.38 | 5.96 | 12.34 | 0.63 | 12.97 | 93.7 | 7,075.5 | |
| 2023 | 20,315,347 | 8.50 | 4.00 | 7.48 | 6.37 | 5.72 | 12.09 | 0.63 | 12.72 | 94.4 | 6,514.2 | |
| 2024 | 21,156,474 | 8.50 | 4.00 | 7.48 | 6.36 | 5.50 | 11.86 | 0.63 | 12.49 | 95.1 | 5,905.2 | |
| 2025 | 22,033,366 | 8.50 | 4.00 | 7.48 | 6.35 | 5.28 | 11.63 | 0.63 | 12.26 | 95.9 | 5,244.3 | |
| 2026 | 22,945,071 | 8.50 | 4.00 | 7.48 | 6.34 | 5.07 | 11.41 | 0.63 | 12.04 | 96.6 | 4,527.2 | |
| 2027 | 23,888,648 | 8.50 | 4.00 | 7.49 | 6.33 | 4.87 | 11.20 | 0.63 | 11.83 | 97.3 | 3,749.2 | |
| 2028 | 24,860,052 | 8.50 | 4.00 | 7.49 | 6.32 | 4.68 | 11.00 | 0.63 | 11.63 | 98.0 | 2,905.1 | |
| 2029 | 25,860,712 | 8.50 | 4.00 | 7.49 | 6.31 | 4.50 | 10.81 | 0.63 | 11.44 | 98.7 | 1,989.2 | |
| 2030 | 26,890,536 | 8.50 | 4.00 | 7.49 | 6.31 | 4.32 | 10.63 | 0.63 | 11.26 | 99.4 | 995.5 | |
| 2031 | 27,952,132 | 8.50 | 4.00 | 7.49 | 6.30 | 4.16 | 10.46 | 0.63 | 11.09 | 100.1 | (82.7) | |
| 2032 | 29,049,160 | 8.50 | 4.00 | 7.49 | 6.29 | 4.00 | 10.29 | 0.63 | 10.92 | 100.8 | (1,252.6) | |
| 2033 | 30,180,558 | 8.50 | 4.00 | 7.49 | 6.29 | 1.64 | 7.93 | 0.63 | 8.56 | 101.1 | (1,853.8) | |
| 2034 | 31,352,307 | 8.50 | 4.00 | 7.49 | 6.28 | 0.67 | 6.95 | 0.63 | 7.58 | 101.2 | (2,220.0) | |
| 2035 | 32,575,992 | 8.50 | 4.00 | 7.50 | 6.26 | (0.36) | 5.90 | 0.63 | 6.53 | 101.2 | (2,291.2) | |
| 2036 | 33,858,884 | 8.50 | 4.00 | 7.50 | 6.25 | (1.21) | 5.04 | 0.63 | 5.67 | 101.1 | (2,075.5) | |
| 2037 | 35,196,711 | 8.50 | 4.00 | 7.50 | 6.24 | (2.25) | 3.99 | 0.63 | 4.63 | 100.7 | (1,464.8) | |
| 2038 | 36,596,245 | 8.50 | 4.00 | 7.50 | 6.23 | (2.38) | 3.85 | 0.63 | 4.63 | 100.4 | (773.8) | |

| Public School Employees' Retirement System of Pennsylvania Projection of Contribution Rates and Funded Ratios As of June 30, 2008 Market Returns and Pension Rate Floors Set by User Contributions Determined under Current Law | | | | | | | | | | | | |
|--|-----------------------------------|-----------------------------------|--------------------|----------------------------|----------------------|-------------------------|-----------------------------------|--------------------------|----------------------------------|--------------|--|--|
| Fiscal Year Ending June | Appropriation Payroll (thousands) | Fiscal Year Market Rate of Return | Pension Rate Floor | Employee Contribution Rate | Employer Normal Cost | Unfunded Liability Rate | Preliminary Employer Pension Rate | Health Care Contribution | Total Employer Contribution Rate | Funded Ratio | Unfunded Accrued Liability (\$ Millions) | |
| 2007 | \$ 11,821,951 | 22.93 % | 4.00 % | 7.21 % | 6.62 % | (0.95) % | 5.67 % | 0.74 % | 6.46 % | 85.8 % | \$ 9,438.0 | |
| 2008 | 12,881,244 | (2.82) | 4.00 | 7.25 | 6.68 | (0.24) | 6.44 | 0.69 | 7.13 | 86.0 | 9,923.5 | |
| 2009 | 12,402,702 | 8.25 | 4.00 | 7.29 | 6.68 | (3.37) | 3.31 | 0.76 | 4.76 | 85.0 | 11,276.7 | |
| 2010 | 12,899,000 | 8.00 | 4.00 | 7.32 | 7.35 | (3.72) | 3.63 | 0.78 | 4.78 | 85.2 | 11,524.8 | |
| 2011 | 13,297,917 | 8.00 | 4.00 | 7.34 | 8.03 | (3.73) | 4.30 | 0.76 | 5.06 | 84.4 | 12,576.4 | |
| 2012 | 13,703,700 | 8.00 | 4.00 | 7.36 | 8.00 | (4.43) | 3.57 | 0.75 | 4.75 | 81.5 | 15,443.1 | |
| 2013 | 14,132,543 | 8.00 | 4.00 | 7.38 | 7.97 | 11.45 | 19.42 | 0.74 | 20.16 | 82.6 | 15,067.9 | |
| 2014 | 14,586,335 | 8.00 | 4.00 | 7.40 | 7.94 | 11.39 | 19.33 | 0.73 | 20.06 | 83.6 | 14,645.5 | |
| 2015 | 15,066,759 | 8.00 | 4.00 | 7.41 | 7.93 | 10.15 | 18.08 | 0.72 | 18.80 | 84.5 | 14,327.1 | |
| 2016 | 15,573,822 | 8.00 | 4.00 | 7.43 | 7.90 | 9.84 | 17.74 | 0.70 | 18.44 | 85.4 | 13,966.5 | |
| 2017 | 16,119,772 | 8.00 | 4.00 | 7.44 | 7.88 | 9.53 | 17.41 | 0.69 | 18.10 | 86.3 | 13,552.8 | |
| 2018 | 16,711,215 | 8.00 | 4.00 | 7.45 | 7.86 | 9.20 | 17.06 | 0.66 | 17.72 | 87.2 | 13,102.1 | |
| 2019 | 17,349,067 | 8.00 | 4.00 | 7.46 | 7.85 | 8.87 | 16.72 | 0.65 | 17.37 | 88.1 | 12,613.5 | |
| 2020 | 18,031,134 | 8.00 | 4.00 | 7.46 | 7.84 | 8.54 | 16.38 | 0.63 | 17.01 | 89.0 | 12,084.4 | |
| 2021 | 18,751,940 | 8.00 | 4.00 | 7.47 | 7.82 | 8.21 | 16.03 | 0.63 | 16.66 | 89.8 | 11,512.3 | |
| 2022 | 19,513,328 | 8.00 | 4.00 | 7.47 | 7.82 | 7.89 | 15.71 | 0.63 | 16.34 | 90.7 | 10,894.3 | |
| 2023 | 20,315,347 | 8.00 | 4.00 | 7.48 | 7.80 | 7.58 | 15.38 | 0.63 | 16.01 | 91.6 | 10,226.6 | |
| 2024 | 21,156,474 | 8.00 | 4.00 | 7.48 | 7.79 | 7.28 | 15.07 | 0.63 | 15.70 | 92.5 | 9,505.5 | |
| 2025 | 22,033,366 | 8.00 | 4.00 | 7.48 | 7.79 | 6.99 | 14.78 | 0.63 | 15.41 | 93.3 | 8,726.7 | |
| 2026 | 22,945,071 | 8.00 | 4.00 | 7.48 | 7.78 | 6.71 | 14.49 | 0.63 | 15.12 | 94.2 | 7,885.6 | |
| 2027 | 23,888,648 | 8.00 | 4.00 | 7.49 | 7.76 | 6.44 | 14.20 | 0.63 | 14.83 | 95.1 | 6,977.1 | |
| 2028 | 24,860,052 | 8.00 | 4.00 | 7.49 | 7.76 | 6.19 | 13.95 | 0.63 | 14.58 | 95.9 | 5,996.0 | |
| 2029 | 25,860,712 | 8.00 | 4.00 | 7.49 | 7.75 | 5.95 | 13.70 | 0.63 | 14.33 | 96.8 | 4,936.4 | |
| 2030 | 26,890,536 | 8.00 | 4.00 | 7.49 | 7.74 | 5.72 | 13.46 | 0.63 | 14.09 | 97.6 | 3,792.0 | |
| 2031 | 27,952,132 | 8.00 | 4.00 | 7.49 | 7.74 | 5.51 | 13.25 | 0.63 | 13.88 | 98.4 | 2,556.1 | |
| 2032 | 29,049,160 | 8.00 | 4.00 | 7.49 | 7.73 | 5.30 | 13.03 | 0.63 | 13.66 | 99.3 | 1,221.3 | |
| 2033 | 30,180,558 | 8.00 | 4.00 | 7.49 | 7.72 | 2.97 | 10.69 | 0.63 | 11.32 | 99.8 | 421.8 | |
| 2034 | 31,352,307 | 8.00 | 4.00 | 7.49 | 7.71 | 1.99 | 9.70 | 0.63 | 10.33 | 100.1 | (166.8) | |
| 2035 | 32,575,992 | 8.00 | 4.00 | 7.50 | 7.69 | 0.95 | 8.64 | 0.63 | 9.27 | 100.3 | (489.8) | |
| 2036 | 33,858,884 | 8.00 | 4.00 | 7.50 | 7.68 | 0.09 | 7.77 | 0.63 | 8.40 | 100.3 | (557.8) | |
| 2037 | 35,196,711 | 8.00 | 4.00 | 7.50 | 7.67 | (0.95) | 6.72 | 0.63 | 7.35 | 100.1 | (267.2) | |
| 2038 | 36,596,245 | 8.00 | 4.00 | 7.50 | 7.66 | (1.13) | 6.53 | 0.63 | 7.16 | 99.9 | 125.0 | |

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Interactive spreadsheets\2008\Funding Proj - 2008 Val using 8.25% in 2008 and 8% after 2008.xls\Results - 2008



Employer Contribution Rate Spike

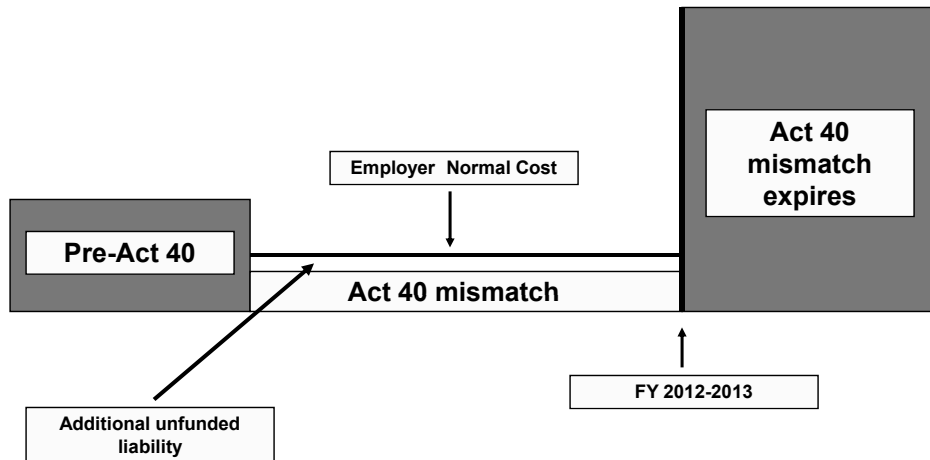
- **The projected sharp rise in PSERS' employer contribution rate from 4.75% in FY 2011-2012 to an estimated 20.16% in FY 2012/2013 (up from last year's projection of 4.74% to 11.23%), is primarily the result of:**
 - **The unfunded liabilities created by**
 - The FYs' 2001-2003 down investment markets
 - Act 2001-9 multiplier increase
 - The Act 2002-38 phased COLA
 - The (2.82)% investment return for FY 2007-2008
 - **The changes made by Acts 2002-38 and 2003-40 to PSERS' actuarial funding methodologies**

Employer Contribution Rate Spike

- Without going into details about the funding changes of Act 38 and Act 40, each had the effect of pushing off liability to the future to provide fiscal relief to both the Commonwealth and school employers during recessionary times
- Of the two, Act 40 had the greatest impact as it created a mismatch of the amortization of PSERS' actuarial gains and losses
 - Pre-Act 9 gains and losses remained on a 10 year amortization schedule
 - Post-Act 9 gains and losses were shifted to a 30 year amortization schedule

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Employer Contribution Rate Spike



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Article on Bloomberg on January 13, 2009 State Pensions' \$865 billion Loss Affects New Workers

Summary of the key points of the article follows:

- **State governments from Rhode Island to California have run up estimated pension-fund losses of \$865.1 billion, forcing some to cut benefits for new hires.**
- **Assets for 109 state funds declined 37 percent to \$1.46 trillion over the 14 months ended Dec. 16, [2008] according to the Center for Retirement Research at Boston College. The Standard & Poor's 500 Index of stocks fell 41 percent in the period.**
 - **"Not a whole lot of people get too excited about pension funds," Philadelphia Mayor Michael Nutter said in an interview. "But if you have to pay those costs, they do grab your attention."**
- **The \$865 billion in losses, which exceed the \$700 billion Troubled Asset Relief Program that Congress approved in October, comes as states face budget deficits totaling \$42 billion.**

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- **The Boston College center analyzed holdings reported on financial statements from 2006, when the 109 funds had about 20.4 million members.**
 - **To return to 2007 actuarial funding levels by 2010, the 109 funds would need annual returns of 52 percent on assets, the analysis found.**
 - **Annual returns of 18 percent would achieve the goal by 2013, the center said.**
 - **The projections are based on a 5.7 percent annual increase in liabilities and a \$50 billion increase in assets from contributions above annual payouts.**
 - **"We can't make enough on investments to drive out of this hole if all you do is depend on investments," said Mike Burnside, executive director of the Kentucky Retirement Systems in Frankfort.**

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- **In Rhode Island, state and local governments were scheduled to make contributions equaling 25 percent of their payroll expenses to retirement plans in 2010, said Frank Karpinski, the executive director. Barring a recovery, the contributions may increase to as much as 30 percent in 2011, he said.**
- **"That is kind of the elephant in the room," he said. "Where are the funds going to come from to make these kinds of required contributions?"**

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| Public School Employees' Retirement System of Pennsylvania Projection of Contribution Rates and Funded Ratios As of June 30, 2008 Market Returns and Pension Rate Floors Set by User Contributions Determined under Current Law | | | | | | | | | | | |
|--|-----------------------------------|-----------------------------------|--------------------|----------------------------|----------------------|-------------------------|-----------------------------------|--------------------------|----------------------------------|--------------|--|
| Fiscal Year Ending June | Appropriation Payroll (thousands) | Fiscal Year Market Rate of Return | Pension Rate Floor | Employee Contribution Rate | Employer Normal Cost | Unfunded Liability Rate | Preliminary Employer Pension Rate | Health Care Contribution | Total Employer Contribution Rate | Funded Ratio | Unfunded Accrued Liability (\$ Millions) |
| 2007 | \$ 11,821,951 | 22.93 % | 4.00 % | 7.21 % | 6.62 % | (0.95) % | 5.67 % | 0.74 % | 6.46 % | 85.8 % | \$ 9,438.0 |
| 2008 | 12,881,244 | (2.82) | 4.00 | 7.25 | 6.68 | (0.24) | 6.44 | 0.69 | 7.13 | 86.0 | 9,923.5 |
| 2009 | 12,402,702 | (25.50) | 4.00 | 7.29 | 6.68 | (3.37) | 3.31 | 0.76 | 4.76 | 79.5 | 15,399.7 |
| 2010 | 12,899,000 | 8.00 | 4.00 | 7.32 | 7.35 | (3.72) | 3.63 | 0.78 | 4.78 | 73.9 | 20,349.0 |
| 2011 | 13,297,917 | 8.00 | 4.00 | 7.34 | 8.03 | (0.75) | 7.28 | 0.76 | 8.04 | 67.5 | 26,296.5 |
| 2012 | 13,703,700 | 8.00 | 4.00 | 7.36 | 8.00 | 1.52 | 9.52 | 0.75 | 10.27 | 59.0 | 34,250.5 |
| 2013 | 14,132,543 | 8.00 | 4.00 | 7.38 | 7.97 | 20.32 | 28.29 | 0.74 | 29.03 | 55.0 | 38,962.9 |
| 2014 | 14,586,335 | 8.00 | 4.00 | 7.40 | 7.94 | 23.16 | 31.10 | 0.73 | 31.83 | 55.9 | 39,490.4 |
| 2015 | 15,066,759 | 8.00 | 4.00 | 7.41 | 7.93 | 24.61 | 32.54 | 0.72 | 33.26 | 57.4 | 39,485.4 |
| 2016 | 15,573,822 | 8.00 | 4.00 | 7.43 | 7.90 | 24.30 | 32.20 | 0.70 | 32.90 | 59.2 | 39,184.6 |
| 2017 | 16,119,772 | 8.00 | 4.00 | 7.44 | 7.88 | 23.80 | 31.68 | 0.69 | 32.37 | 61.1 | 38,632.5 |
| 2018 | 16,711,215 | 8.00 | 4.00 | 7.45 | 7.86 | 23.14 | 31.00 | 0.66 | 31.66 | 63.1 | 37,910.7 |
| 2019 | 17,349,067 | 8.00 | 4.00 | 7.46 | 7.85 | 22.38 | 30.23 | 0.65 | 30.88 | 65.2 | 37,091.5 |
| 2020 | 18,031,134 | 8.00 | 4.00 | 7.46 | 7.84 | 21.56 | 29.40 | 0.63 | 30.03 | 67.2 | 36,186.1 |
| 2021 | 18,751,940 | 8.00 | 4.00 | 7.47 | 7.82 | 20.75 | 28.57 | 0.63 | 29.20 | 69.3 | 35,197.4 |
| 2022 | 19,513,328 | 8.00 | 4.00 | 7.47 | 7.82 | 19.94 | 27.76 | 0.63 | 28.39 | 71.3 | 34,124.7 |
| 2023 | 20,315,347 | 8.00 | 4.00 | 7.48 | 7.80 | 19.16 | 26.96 | 0.63 | 27.59 | 73.3 | 32,964.0 |
| 2024 | 21,156,474 | 8.00 | 4.00 | 7.48 | 7.79 | 18.40 | 26.19 | 0.63 | 26.82 | 75.3 | 31,709.4 |
| 2025 | 22,033,366 | 8.00 | 4.00 | 7.48 | 7.79 | 17.67 | 25.46 | 0.63 | 26.09 | 77.2 | 30,353.9 |
| 2026 | 22,945,071 | 8.00 | 4.00 | 7.48 | 7.78 | 16.96 | 24.74 | 0.63 | 25.37 | 79.1 | 28,889.8 |
| 2027 | 23,888,648 | 8.00 | 4.00 | 7.49 | 7.76 | 16.29 | 24.05 | 0.63 | 24.68 | 81.0 | 27,308.4 |
| 2028 | 24,860,052 | 8.00 | 4.00 | 7.49 | 7.76 | 15.66 | 23.42 | 0.63 | 24.05 | 82.9 | 25,600.5 |
| 2029 | 25,860,712 | 8.00 | 4.00 | 7.49 | 7.75 | 15.05 | 22.80 | 0.63 | 23.43 | 84.8 | 23,755.9 |
| 2030 | 26,890,536 | 8.00 | 4.00 | 7.49 | 7.74 | 14.48 | 22.22 | 0.63 | 22.85 | 86.6 | 21,763.7 |
| 2031 | 27,952,132 | 8.00 | 4.00 | 7.49 | 7.74 | 13.93 | 21.67 | 0.63 | 22.30 | 88.4 | 19,612.1 |
| 2032 | 29,049,160 | 8.00 | 4.00 | 7.49 | 7.73 | 13.40 | 21.13 | 0.63 | 21.76 | 90.2 | 17,288.4 |
| 2033 | 30,180,558 | 8.00 | 4.00 | 7.49 | 7.72 | 10.77 | 18.49 | 0.63 | 19.12 | 91.6 | 15,421.0 |
| 2034 | 31,352,307 | 8.00 | 4.00 | 7.49 | 7.71 | 9.49 | 17.20 | 0.63 | 17.83 | 92.8 | 13,678.9 |
| 2035 | 32,575,992 | 8.00 | 4.00 | 7.50 | 7.69 | 8.17 | 15.86 | 0.63 | 16.49 | 93.9 | 12,110.2 |
| 2036 | 33,858,884 | 8.00 | 4.00 | 7.50 | 7.68 | 7.04 | 14.72 | 0.63 | 15.35 | 94.8 | 10,696.9 |
| 2037 | 35,196,711 | 8.00 | 4.00 | 7.50 | 7.67 | 5.73 | 13.40 | 0.63 | 14.03 | 95.5 | 9,534.5 |
| 2038 | 36,596,245 | 8.00 | 4.00 | 7.50 | 7.66 | 5.30 | 12.96 | 0.63 | 13.59 | 96.2 | 8,357.5 |

| Public School Employees' Retirement System of Pennsylvania Projection of Contribution Rates and Funded Ratios As of June 30, 2008 Market Returns and Pension Rate Floors Set by User Contributions Determined under Current Law | | | | | | | | | | | |
|--|-----------------------------------|-----------------------------------|--------------------|----------------------------|----------------------|-------------------------|-----------------------------------|--------------------------|----------------------------------|--------------|--|
| Fiscal Year Ending June | Appropriation Payroll (thousands) | Fiscal Year Market Rate of Return | Pension Rate Floor | Employee Contribution Rate | Employer Normal Cost | Unfunded Liability Rate | Preliminary Employer Pension Rate | Health Care Contribution | Total Employer Contribution Rate | Funded Ratio | Unfunded Accrued Liability (\$ Millions) |
| 2007 | \$ 11,821,951 | 22.93 % | 4.00 % | 7.21 % | 6.62 % | (0.95) % | 5.67 % | 0.74 % | 6.46 % | 85.8 % | \$ 9,438.0 |
| 2008 | 12,881,244 | (2.82) | 4.00 | 7.25 | 6.68 | (0.24) | 6.44 | 0.69 | 7.13 | 86.0 | 9,923.5 |
| 2009 | 12,402,702 | (30.00) | 4.00 | 7.29 | 6.68 | (3.37) | 3.31 | 0.76 | 4.76 | 78.8 | 15,949.4 |
| 2010 | 12,899,000 | 8.00 | 4.00 | 7.32 | 7.35 | (3.72) | 3.63 | 0.78 | 4.78 | 72.4 | 21,525.6 |
| 2011 | 13,297,917 | 8.00 | 4.00 | 7.34 | 8.03 | (0.36) | 7.67 | 0.76 | 8.43 | 65.2 | 28,125.9 |
| 2012 | 13,703,700 | 8.00 | 4.00 | 7.36 | 8.00 | 2.31 | 10.31 | 0.75 | 11.06 | 56.1 | 36,750.0 |
| 2013 | 14,132,543 | 8.00 | 4.00 | 7.38 | 7.97 | 21.51 | 29.48 | 0.74 | 30.22 | 51.3 | 42,140.1 |
| 2014 | 14,586,335 | 8.00 | 4.00 | 7.40 | 7.94 | 24.72 | 32.66 | 0.73 | 33.39 | 52.3 | 42,794.3 |
| 2015 | 15,066,759 | 8.00 | 4.00 | 7.41 | 7.93 | 26.54 | 34.47 | 0.72 | 35.19 | 53.8 | 42,831.1 |
| 2016 | 15,573,822 | 8.00 | 4.00 | 7.43 | 7.90 | 26.22 | 34.12 | 0.70 | 34.82 | 55.7 | 42,538.4 |
| 2017 | 16,119,772 | 8.00 | 4.00 | 7.44 | 7.88 | 25.70 | 33.58 | 0.69 | 34.27 | 57.8 | 41,968.0 |
| 2018 | 16,711,215 | 8.00 | 4.00 | 7.45 | 7.86 | 25.00 | 32.86 | 0.66 | 33.52 | 59.9 | 41,210.2 |
| 2019 | 17,349,067 | 8.00 | 4.00 | 7.46 | 7.85 | 24.17 | 32.02 | 0.65 | 32.67 | 62.1 | 40,347.0 |
| 2020 | 18,031,134 | 8.00 | 4.00 | 7.46 | 7.84 | 23.29 | 31.13 | 0.63 | 31.76 | 64.4 | 39,391.5 |
| 2021 | 18,751,940 | 8.00 | 4.00 | 7.47 | 7.82 | 22.41 | 30.23 | 0.63 | 30.86 | 66.5 | 38,347.4 |
| 2022 | 19,513,328 | 8.00 | 4.00 | 7.47 | 7.82 | 21.55 | 29.37 | 0.63 | 30.00 | 68.7 | 37,214.2 |
| 2023 | 20,315,347 | 8.00 | 4.00 | 7.48 | 7.80 | 20.70 | 28.50 | 0.63 | 29.13 | 70.9 | 35,987.9 |
| 2024 | 21,156,474 | 8.00 | 4.00 | 7.48 | 7.79 | 19.88 | 27.67 | 0.63 | 28.30 | 73.0 | 34,662.4 |
| 2025 | 22,033,366 | 8.00 | 4.00 | 7.48 | 7.79 | 19.09 | 26.88 | 0.63 | 27.51 | 75.1 | 33,230.2 |
| 2026 | 22,945,071 | 8.00 | 4.00 | 7.48 | 7.78 | 18.33 | 26.11 | 0.63 | 26.74 | 77.2 | 31,683.2 |
| 2027 | 23,888,648 | 8.00 | 4.00 | 7.49 | 7.76 | 17.61 | 25.37 | 0.63 | 26.00 | 79.2 | 30,012.3 |
| 2028 | 24,860,052 | 8.00 | 4.00 | 7.49 | 7.76 | 16.92 | 24.68 | 0.63 | 25.31 | 81.2 | 28,207.7 |
| 2029 | 25,860,712 | 8.00 | 4.00 | 7.49 | 7.75 | 16.26 | 24.01 | 0.63 | 24.64 | 83.2 | 26,258.7 |
| 2030 | 26,890,536 | 8.00 | 4.00 | 7.49 | 7.74 | 15.64 | 23.38 | 0.63 | 24.01 | 85.2 | 24,153.7 |
| 2031 | 27,952,132 | 8.00 | 4.00 | 7.49 | 7.74 | 15.05 | 22.79 | 0.63 | 23.42 | 87.1 | 21,880.4 |
| 2032 | 29,049,160 | 8.00 | 4.00 | 7.49 | 7.73 | 14.48 | 22.21 | 0.63 | 22.84 | 89.0 | 19,425.1 |
| 2033 | 30,180,558 | 8.00 | 4.00 | 7.49 | 7.72 | 11.81 | 19.53 | 0.63 | 20.16 | 90.5 | 17,415.7 |
| 2034 | 31,352,307 | 8.00 | 4.00 | 7.49 | 7.71 | 10.49 | 18.20 | 0.63 | 18.83 | 91.9 | 15,520.1 |
| 2035 | 32,575,992 | 8.00 | 4.00 | 7.50 | 7.69 | 9.14 | 16.83 | 0.63 | 17.46 | 93.1 | 13,785.7 |
| 2036 | 33,858,884 | 8.00 | 4.00 | 7.50 | 7.68 | 7.96 | 15.64 | 0.63 | 16.27 | 94.1 | 12,193.4 |
| 2037 | 35,196,711 | 8.00 | 4.00 | 7.50 | 7.67 | 6.62 | 14.29 | 0.63 | 14.92 | 95.0 | 10,837.7 |
| 2038 | 36,596,245 | 8.00 | 4.00 | 7.50 | 7.66 | 6.16 | 13.82 | 0.63 | 14.45 | 95.8 | 9,452.0 |

What does the future hold?

- **Continued uncertain economy**
- **Continued media coverage of PSERS and SERS**
 - Debate between those who have pensions and those who do not
 - Rising contributions needed from employers/ Commonwealth taxpayers
- **Possible legislation to solve funding issues at PSERS and SERS**
 - Possibly in the second half of the year- after Budget passes
- **Will discuss potential options further in the webcast**

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Estimating Your Future Retirement Liability

Charles Peterson, PRSBA
Director of Cooperative Business Services &
Operations, Central Susquehanna IU #1

See Spreadsheet



Pennsylvania Association of School Business Officials
Developing educational leaders in school operations.

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Cost Reduction Strategies

- Designate fund balance
- Soften the blow of future costs by maintaining current employer contribution rate
- Plan a stepped increase in the local share to gradually meet the 2012-13 FY and beyond increases
- Early retirement incentives



Pennsylvania Association of School Business Officials
Developing educational leaders in school operations.

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State Remedies

What are Potential Options?



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State Remedies

- **Although Acts 38 and 40 were criticized, the Acts were intended to provide fiscal “breathing room” to both the Commonwealth and school employers as a result of 2001-2003 down markets, so that a more permanent and sustainable solution could be found to PSERS’ funding issues**
- **To date, little has been done**
 - **Positive**
 - **4.00% employer rate floor imposed**
 - **Increased awareness of pension funding issues through the media and meetings with legislators, employers, and member groups**
 - **Negative**
 - **Normal cost rate floor rejected**
 - **Below normal cost funding continues**
 - **Compounding of 2001-2003 investment losses with 2008-2009 investment losses**
- **Bottom line, time has run out as we move closer to the FY 2012-2013 significant employer rate increase**
- **So what can be done?**

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State Remedies

- **Fundamentally, there are only three ways to remedy funding issues at the pension fund**
 - **Increase Funding to the System**
 - **Decrease/Cut Liabilities of the System**
 - **Defer the Liabilities of the System**

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State Remedies

- **Increase Funding to the System:**
 - **Increased Employer Contributions**
 - Employer rate are already projected to increase significantly in FY 2012-2013 and potentially above the original rate spike of 27.73%
 - Higher employer contribution rates are expected to continue well into the future beyond FY 2012-2013
 - Unlikely the Commonwealth and School Employers can afford these increased costs without significant tax increases
 - **Increased Employee Contributions**
 - Can only occur prospectively due to constitutional impairment of contract issues, therefore not a significant impact on current unfunded liabilities
 - **Increased Investment Returns**
 - Under current market conditions, unlikely to occur
 - Therefore, at this point the System cannot earn its way out of the projected sharp increase in the employer contribution rate

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| Public School Employees' Retirement System of Pennsylvania Projection of Contribution Rates and Funded Ratios As of June 30, 2008 Market Returns and Pension Rate Floors Set by User Contributions Determined under Current Law | | | | | | | | | | | | | |
|--|-----------------------------------|-----------------------------------|--------------------|----------------------------|----------------------|-------------------------|-----------------------------------|--------------------------|----------------------------------|---|--------------|--|--|
| Market Returns Scenario 1 | | | | | | | | | | | | | |
| Fiscal Year Ending June | Appropriation Payroll (thousands) | Fiscal Year Market Rate of Return | Pension Rate Floor | Employee Contribution Rate | Employer Normal Cost | Unfunded Liability Rate | Preliminary Employer Pension Rate | Health Care Contribution | Total Employer Contribution Rate | Projected Total Employer Contribution (thousands) | Funded Ratio | | |
| 2007 | \$ 11,821,951 | 22.93 | 4.00 % | 7.21 % | 6.62 % | (0.95) % | 5.67 % | 0.74 % | 6.46 % | | 85.8 % | | |
| 2008 | 12,881,244 | (2.82) | 4.00 | 7.25 | 6.68 | (0.24) | 6.44 | 0.69 | 7.13 | | 86.0 | | |
| 2009 | 12,402,702 | 35.00 | 4.00 | 7.29 | 6.68 | (3.37) | 3.31 | 0.76 | 4.76 | \$ 590,369 | 89.4 | | |
| 2010 | 12,899,000 | 35.00 | 4.00 | 7.32 | 7.35 | (3.72) | 3.63 | 0.78 | 4.78 | 616,572 | 99.6 | | |
| 2011 | 13,297,917 | 35.00 | 4.00 | 7.34 | 8.03 | (6.09) | 1.94 | 0.76 | 4.76 | 632,981 | 116.4 | | |
| 2012 | 13,703,700 | 8.00 | 4.00 | 7.36 | 8.00 | (12.12) | (4.12) | 0.75 | 4.75 | 650,926 | 132.2 | | |
| 2013 | 14,132,543 | 8.00 | 4.00 | 7.38 | 7.97 | (5.52) | 2.45 | 0.74 | 4.74 | 669,883 | 150.3 | | |
| 2014 | 14,586,335 | 8.00 | 4.00 | 7.40 | 7.94 | (15.23) | (7.29) | 0.73 | 4.73 | 689,934 | 165.5 | | |
| 2015 | 15,066,759 | 8.00 | 4.00 | 7.41 | 7.93 | (25.27) | (17.34) | 0.72 | 4.72 | 711,151 | 176.5 | | |
| 2016 | 15,573,822 | 8.00 | 4.00 | 7.43 | 7.90 | (32.87) | (24.97) | 0.70 | 4.70 | 731,970 | 181.6 | | |
| 2017 | 16,119,772 | 8.00 | 4.00 | 7.44 | 7.88 | (38.30) | (30.42) | 0.69 | 4.69 | 756,017 | 186.2 | | |
| 2018 | 16,711,215 | 8.00 | 4.00 | 7.45 | 7.86 | (40.64) | (32.78) | 0.66 | 4.66 | 778,743 | 190.6 | | |
| 2019 | 17,349,067 | 8.00 | 4.00 | 7.46 | 7.85 | (42.95) | (35.10) | 0.65 | 4.65 | 806,732 | 194.9 | | |
| 2020 | 18,031,134 | 8.00 | 4.00 | 7.46 | 7.84 | (45.04) | (37.20) | 0.63 | 4.63 | 834,842 | 199.1 | | |
| 2021 | 18,751,940 | 8.00 | 4.00 | 7.47 | 7.82 | (47.06) | (39.24) | 0.63 | 4.63 | 868,215 | 203.6 | | |
| 2022 | 19,513,328 | 8.00 | 4.00 | 7.47 | 7.82 | (49.07) | (41.25) | 0.63 | 4.63 | 903,467 | 208.2 | | |
| 2023 | 20,315,347 | 8.00 | 4.00 | 7.48 | 7.80 | (51.14) | (43.34) | 0.63 | 4.63 | 940,601 | 212.9 | | |
| 2024 | 21,156,474 | 8.00 | 4.00 | 7.48 | 7.79 | (53.29) | (45.50) | 0.63 | 4.63 | 979,545 | 217.9 | | |
| 2025 | 22,033,366 | 8.00 | 4.00 | 7.48 | 7.79 | (55.53) | (47.74) | 0.63 | 4.63 | 1,020,145 | 223.2 | | |
| 2026 | 22,945,071 | 8.00 | 4.00 | 7.48 | 7.78 | (57.88) | (50.10) | 0.63 | 4.63 | 1,062,357 | 228.7 | | |
| 2027 | 23,888,648 | 8.00 | 4.00 | 7.49 | 7.76 | (60.35) | (52.59) | 0.63 | 4.63 | 1,106,044 | 234.5 | | |
| 2028 | 24,860,052 | 8.00 | 4.00 | 7.49 | 7.76 | (62.98) | (55.22) | 0.63 | 4.63 | 1,151,020 | 240.7 | | |
| 2029 | 25,860,712 | 8.00 | 4.00 | 7.49 | 7.75 | (65.75) | (58.00) | 0.63 | 4.63 | 1,197,351 | 247.3 | | |
| 2030 | 26,890,536 | 8.00 | 4.00 | 7.49 | 7.74 | (68.70) | (60.96) | 0.63 | 4.63 | 1,245,032 | 254.3 | | |
| 2031 | 27,952,132 | 8.00 | 4.00 | 7.49 | 7.74 | (71.81) | (64.07) | 0.63 | 4.63 | 1,294,184 | 261.8 | | |
| 2032 | 29,049,160 | 8.00 | 4.00 | 7.49 | 7.73 | (75.10) | (67.37) | 0.63 | 4.63 | 1,344,976 | 269.8 | | |
| 2033 | 30,180,558 | 8.00 | 4.00 | 7.49 | 7.72 | (80.70) | (72.98) | 0.63 | 4.63 | 1,397,360 | 278.4 | | |
| 2034 | 31,352,307 | 8.00 | 4.00 | 7.49 | 7.71 | (85.16) | (77.45) | 0.63 | 4.63 | 1,451,612 | 287.7 | | |
| 2035 | 32,575,992 | 8.00 | 4.00 | 7.50 | 7.69 | (90.04) | (82.35) | 0.63 | 4.63 | 1,508,268 | 297.6 | | |
| 2036 | 33,858,884 | 8.00 | 4.00 | 7.50 | 7.68 | (94.98) | (87.30) | 0.63 | 4.63 | 1,567,666 | 308.3 | | |
| 2037 | 35,196,711 | 8.00 | 4.00 | 7.50 | 7.67 | (100.38) | (92.71) | 0.63 | 4.63 | 1,629,608 | 319.9 | | |
| 2038 | 36,596,245 | 8.00 | 4.00 | 7.50 | 7.66 | (105.18) | (97.52) | 0.63 | 4.63 | 1,694,406 | 332.5 | | |

The Board at its January 2009 meeting adopted to reduce the interest rate from 8.50% to 8.25% for the June 30, 2008 valuation and to 8.00% thereafter.

State Remedies

- **Decrease/Cut Liabilities at the System to potentially solve funding issues at the System**
 - Conversion of PSERS to a Defined Contribution or Hybrid plan
 - Maintain existing Defined Benefit plan with benefit modifications/cuts
 - Reduce multiplier/Repeal Act 9 of 2001
 - Change terms of retirement
 - Return to a 10-year vesting period
 - Prohibit the withdrawal of a member's contribution
 - No benefit enhancements
- **Would have limited impact on current funding issues because could only be done prospectively for new employees**
 - Any such changes would have to be prospective only to avoid the PA Constitution's prohibition against the impairment of a contract (Article I, Section 17)
 - The courts have ruled that PSERS' pension benefits are contracts with the existing members of the System, regardless of vesting, and thus subject to the constitutional impairment of contract prohibition

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State Remedies

- **Defer liabilities at the System into the future to marginally postpone the impact of funding issues at the System**
 - Further adjust actuarial funding methods at the System
 - Adopt Level Percent of Pay
 - Adopt Projected Unit Credits
 - Adjust smoothing of actuarial gains and losses to 10 -15 years
 - An increased rate floor above 4.00%
 - To prevent future underfunding of the System
 - Employer Normal Cost
 - The Governor's Funding proposal
 - Uses legislatively prescribed employer contribution rate collars that are tied to the funding status of the System

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State Remedies

- **The Governor's Funding proposal to address the rate spike was publicly released in June 2008**
 - **A copy of the report is available at the following link:**
<http://www.budget.state.pa.us/portal/server.pt?>
- **No legislation to implement the proposal was introduced in the General Assembly and no further action took place in 2008**
 - **Action is unlikely in the first six months of 2009 due to budget crisis**
 - **Action is more likely in the second half of the year**

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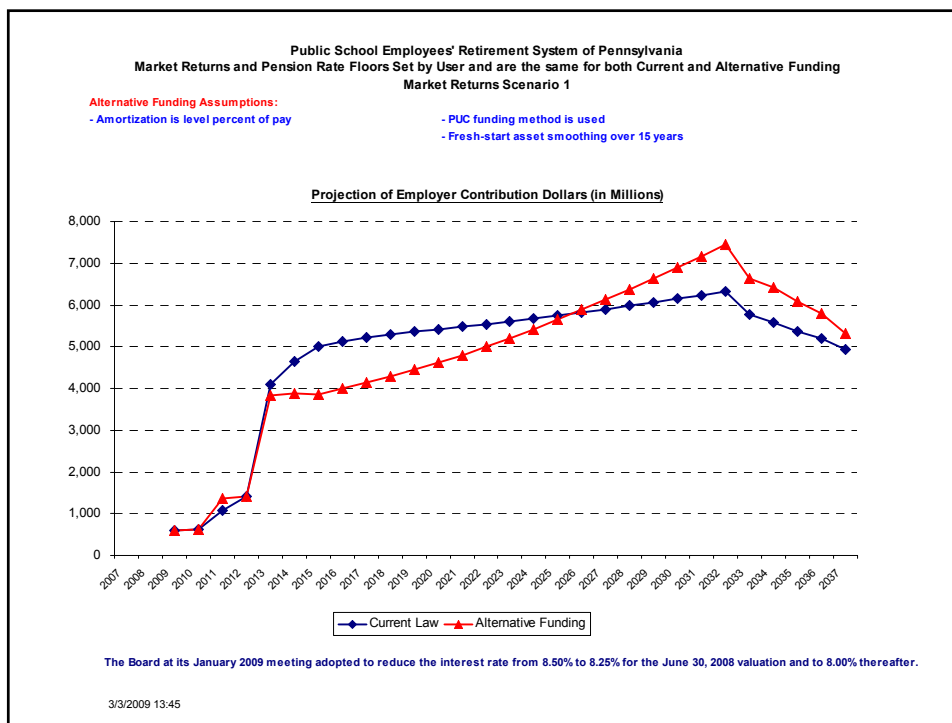
State Remedies

- **Examples of alternative funding proposals follow which use some or all of the following:**
 - **Projected unit credit**
 - **Level percent of pay**
 - **Fresh start of asset smoothing over 15 years**
 - **Varying investments returns (25.50)%, (30.00)%, and a (35.00)% return**
 - **Step up employer contributions by 800 bp for FY 2011 and FY 2012**

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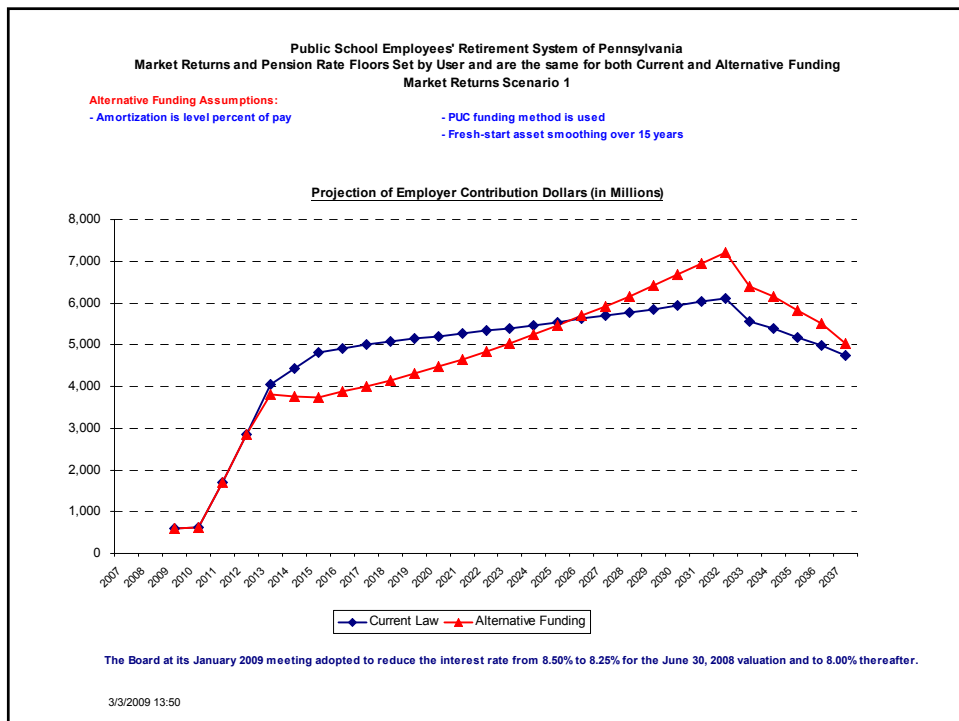
| Public School Employees' Retirement System of Pennsylvania Projection of Contribution Rates and Funded Ratios As of June 30, 2008 Market Returns and Pension Rate Floors Set by User | | | | | | | | | | | | |
|--|-----------------------------------|-----------------------------------|--------------------|----------------------------|----------------------|-------------------------|-----------------------------------|--------------------------|----------------------------------|---|--------------|--|
| Market Returns Scenario 1 Alternative Funding assumption: <ul style="list-style-type: none"> - Amortization is level percent of pay - PUC funding method is used - Fresh-start asset smoothing over 15 years | | | | | | | | | | | | |
| Fiscal Year Ending June | Appropriation Payroll (thousands) | Fiscal Year Market Rate of Return | Pension Rate Floor | Employee Contribution Rate | Employer Normal Cost | Unfunded Liability Rate | Preliminary Employer Pension Rate | Health Care Contribution | Total Employer Contribution Rate | Projected Total Employer Contribution (thousands) | Funded Ratio | |
| 2007 | \$ 11,821,951 | 22.93 % | 4.00 % | 7.21 % | 6.62 % | (0.95) % | 5.67 % | 0.74 % | 6.40 % | | 85.8 % | |
| 2008 | 12,881,244 | (2.82) | 4.00 | 7.25 | 6.68 | (0.24) | 6.44 | 0.69 | 7.13 | | 86.0 | |
| 2009 | 12,402,702 | (25.50) | 4.00 | 7.29 | 6.68 | (3.37) | 3.31 | 0.76 | 4.76 | \$ 590,369 | 62.0 | |
| 2010 | 12,899,000 | 8.00 | 4.00 | 7.32 | 7.35 | (3.72) | 3.63 | 0.78 | 4.78 | 616,572 | 59.7 | |
| 2011 | 13,297,917 | 8.00 | 4.00 | 7.34 | 8.97 | 0.61 | 9.58 | 0.76 | 10.34 | 1,375,005 | 58.1 | |
| 2012 | 13,703,700 | 8.00 | 4.00 | 7.36 | 8.91 | 0.59 | 9.50 | 0.75 | 10.25 | 1,404,629 | 56.3 | |
| 2013 | 14,132,543 | 8.00 | 4.00 | 7.38 | 8.84 | 17.56 | 26.40 | 0.74 | 27.14 | 3,835,572 | 57.4 | |
| 2014 | 14,586,335 | 8.00 | 4.00 | 7.40 | 8.75 | 17.13 | 25.88 | 0.73 | 26.61 | 3,881,424 | 58.5 | |
| 2015 | 15,066,759 | 8.00 | 4.00 | 7.41 | 8.67 | 16.27 | 24.94 | 0.72 | 25.66 | 3,866,130 | 59.4 | |
| 2016 | 15,573,822 | 8.00 | 4.00 | 7.43 | 8.59 | 16.37 | 24.96 | 0.70 | 25.66 | 3,996,243 | 60.4 | |
| 2017 | 16,119,772 | 8.00 | 4.00 | 7.44 | 8.53 | 16.45 | 24.98 | 0.69 | 25.67 | 4,137,945 | 61.5 | |
| 2018 | 16,711,215 | 8.00 | 4.00 | 7.45 | 8.48 | 16.50 | 24.98 | 0.66 | 25.64 | 4,284,756 | 62.7 | |
| 2019 | 17,349,067 | 8.00 | 4.00 | 7.46 | 8.44 | 16.53 | 24.97 | 0.65 | 25.62 | 4,444,831 | 63.9 | |
| 2020 | 18,031,134 | 8.00 | 4.00 | 7.46 | 8.44 | 16.54 | 24.98 | 0.63 | 25.61 | 4,617,773 | 65.2 | |
| 2021 | 18,751,940 | 8.00 | 4.00 | 7.47 | 8.44 | 16.54 | 24.98 | 0.63 | 25.61 | 4,802,372 | 66.7 | |
| 2022 | 19,513,328 | 8.00 | 4.00 | 7.47 | 8.45 | 16.53 | 24.98 | 0.63 | 25.61 | 4,997,363 | 68.2 | |
| 2023 | 20,315,347 | 8.00 | 4.00 | 7.48 | 8.46 | 16.51 | 24.97 | 0.63 | 25.60 | 5,200,729 | 69.9 | |
| 2024 | 21,156,474 | 8.00 | 4.00 | 7.48 | 8.49 | 16.49 | 24.98 | 0.63 | 25.61 | 5,418,173 | 71.6 | |
| 2025 | 22,033,366 | 8.00 | 4.00 | 7.48 | 8.52 | 16.47 | 24.99 | 0.63 | 25.62 | 5,644,948 | 73.5 | |
| 2026 | 22,945,071 | 8.00 | 4.00 | 7.48 | 8.55 | 16.45 | 25.00 | 0.63 | 25.63 | 5,880,822 | 75.4 | |
| 2027 | 23,888,648 | 8.00 | 4.00 | 7.49 | 8.56 | 16.43 | 24.99 | 0.63 | 25.62 | 6,120,272 | 77.5 | |
| 2028 | 24,860,052 | 8.00 | 4.00 | 7.49 | 8.57 | 16.42 | 24.99 | 0.63 | 25.62 | 6,369,145 | 79.6 | |
| 2029 | 25,860,712 | 8.00 | 4.00 | 7.49 | 8.58 | 16.41 | 24.99 | 0.63 | 25.62 | 6,625,514 | 81.8 | |
| 2030 | 26,890,536 | 8.00 | 4.00 | 7.49 | 8.58 | 16.42 | 25.00 | 0.63 | 25.63 | 6,892,044 | 84.1 | |
| 2031 | 27,952,132 | 8.00 | 4.00 | 7.49 | 8.58 | 16.43 | 25.01 | 0.63 | 25.64 | 7,166,927 | 86.6 | |
| 2032 | 29,049,160 | 8.00 | 4.00 | 7.49 | 8.57 | 16.44 | 25.01 | 0.63 | 25.64 | 7,448,205 | 89.1 | |
| 2033 | 30,180,558 | 8.00 | 4.00 | 7.49 | 8.55 | 12.81 | 21.36 | 0.63 | 21.99 | 6,636,705 | 91.0 | |
| 2034 | 31,352,307 | 8.00 | 4.00 | 7.49 | 8.53 | 11.28 | 19.81 | 0.63 | 20.44 | 6,408,412 | 92.7 | |
| 2035 | 32,575,992 | 8.00 | 4.00 | 7.50 | 8.49 | 9.55 | 18.04 | 0.63 | 18.67 | 6,081,938 | 94.2 | |
| 2036 | 33,858,884 | 8.00 | 4.00 | 7.50 | 8.47 | 8.01 | 16.48 | 0.63 | 17.11 | 5,793,255 | 95.5 | |
| 2037 | 35,196,711 | 8.00 | 4.00 | 7.50 | 8.45 | 6.03 | 14.48 | 0.63 | 15.11 | 5,318,223 | 96.4 | |
| 2038 | 36,596,245 | 8.00 | 4.00 | 7.50 | 8.43 | 5.61 | 14.04 | 0.63 | 14.67 | 5,368,669 | 97.3 | |

The Board at its January 2009 meeting adopted to reduce the interest rate from 8.50% to 8.25% for the June 30, 2008 valuation and to 8.00% thereafter.



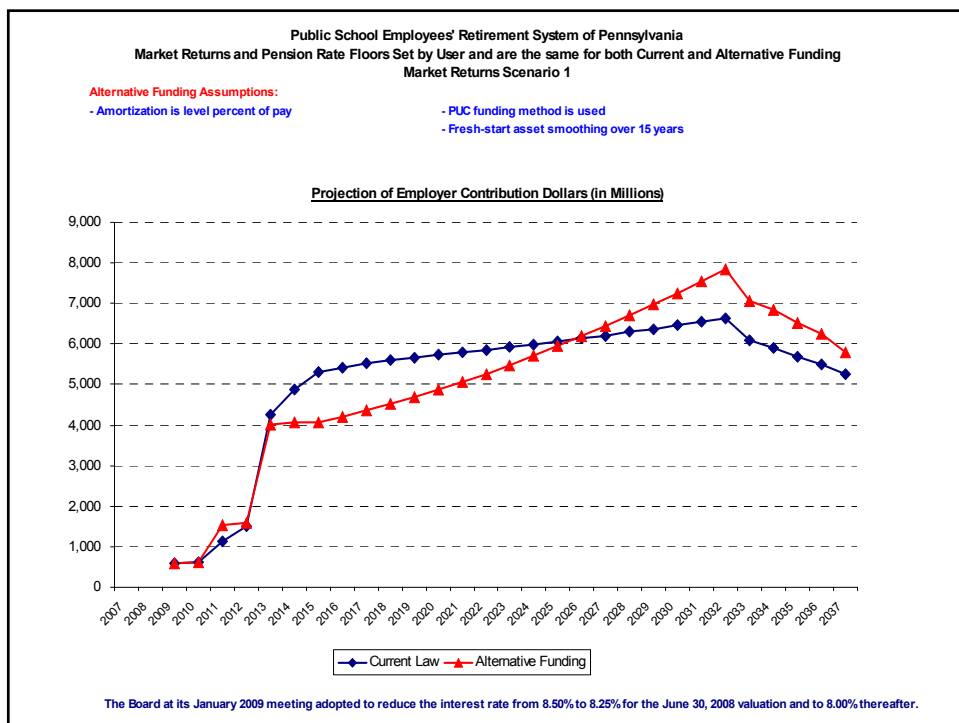
| Public School Employees' Retirement System of Pennsylvania | | | | | | | | | | | |
|--|-----------------------------------|-----------------------------------|--------------------|----------------------------|----------------------|-------------------------|-----------------------------------|--------------------------|----------------------------------|---|--------------|
| Projection of Contribution Rates and Funded Ratios As of June 30, 2008 | | | | | | | | | | | |
| Market Returns Scenario 1 | | | | | | | | | | | |
| Alternative Funding assumptions: | | | | | | | | | | | |
| - Amortization is level percent of pay | | | | | | | | | | | |
| - PUC funding method is used | | | | | | | | | | | |
| - Fresh-start asset smoothing over 15 years | | | | | | | | | | | |
| Fiscal Year Ending June | Appropriation Payroll (thousands) | Fiscal Year Market Rate of Return | Pension Rate Floor | Employee Contribution Rate | Employer Normal Cost | Unfunded Liability Rate | Preliminary Employer Pension Rate | Health Care Contribution | Total Employer Contribution Rate | Projected Total Employer Contribution (thousands) | Funded Ratio |
| 2007 | \$ 11,821,951 | 22.93 % | 4.00 % | 7.21 % | 6.62 % | (0.95) % | 5.67 % | 0.74 % | 6.46 % | | 85.8 % |
| 2008 | 12,881,244 | (2.82) | 4.00 | 7.25 | 6.68 | (0.24) | 6.44 | 0.69 | 7.13 | | 86.0 |
| 2009 | 12,402,702 | (25.50) | 4.00 | 7.29 | 6.68 | (3.37) | 3.31 | 0.76 | 4.76 | \$ 590,369 | 62.0 |
| 2010 | 12,899,000 | 8.00 | 4.00 | 7.32 | 7.35 | (3.72) | 3.63 | 0.78 | 4.78 | 616,572 | 59.7 |
| 2011 | 13,297,917 | 8.00 | 12.00 | 7.34 | 8.97 | 0.61 | 9.58 | 0.76 | 12.76 | 1,696,814 | 58.5 |
| 2012 | 13,703,700 | 8.00 | 20.00 | 7.36 | 8.91 | 0.59 | 9.50 | 0.75 | 20.75 | 2,843,518 | 58.7 |
| 2013 | 14,132,543 | 8.00 | 4.00 | 7.38 | 8.84 | 17.41 | 26.25 | 0.74 | 26.99 | 3,814,373 | 59.9 |
| 2014 | 14,586,335 | 8.00 | 4.00 | 7.40 | 8.75 | 16.33 | 25.08 | 0.73 | 25.81 | 3,764,733 | 60.9 |
| 2015 | 15,066,759 | 8.00 | 4.00 | 7.41 | 8.67 | 15.46 | 24.13 | 0.72 | 24.85 | 3,744,090 | 61.8 |
| 2016 | 15,573,822 | 8.00 | 4.00 | 7.43 | 8.59 | 15.55 | 24.14 | 0.70 | 24.84 | 3,868,537 | 62.8 |
| 2017 | 16,119,772 | 8.00 | 4.00 | 7.44 | 8.53 | 15.63 | 24.16 | 0.69 | 24.85 | 4,005,763 | 63.8 |
| 2018 | 16,711,215 | 8.00 | 4.00 | 7.45 | 8.48 | 15.68 | 24.16 | 0.66 | 24.82 | 4,147,724 | 64.9 |
| 2019 | 17,349,067 | 8.00 | 4.00 | 7.46 | 8.44 | 15.71 | 24.15 | 0.65 | 24.80 | 4,302,569 | 66.1 |
| 2020 | 18,031,134 | 8.00 | 4.00 | 7.46 | 8.44 | 15.72 | 24.16 | 0.63 | 24.79 | 4,469,918 | 67.4 |
| 2021 | 18,751,940 | 8.00 | 4.00 | 7.47 | 8.44 | 15.72 | 24.16 | 0.63 | 24.79 | 4,648,606 | 68.8 |
| 2022 | 19,513,328 | 8.00 | 4.00 | 7.47 | 8.45 | 15.71 | 24.16 | 0.63 | 24.79 | 4,837,354 | 70.3 |
| 2023 | 20,315,347 | 8.00 | 4.00 | 7.48 | 8.46 | 15.69 | 24.15 | 0.63 | 24.78 | 5,034,143 | 71.9 |
| 2024 | 21,156,474 | 8.00 | 4.00 | 7.48 | 8.49 | 15.67 | 24.16 | 0.63 | 24.79 | 5,244,690 | 73.6 |
| 2025 | 22,033,366 | 8.00 | 4.00 | 7.48 | 8.52 | 15.65 | 24.17 | 0.63 | 24.80 | 5,464,275 | 75.4 |
| 2026 | 22,945,071 | 8.00 | 4.00 | 7.48 | 8.55 | 15.63 | 24.18 | 0.63 | 24.81 | 5,692,672 | 77.3 |
| 2027 | 23,888,648 | 8.00 | 4.00 | 7.49 | 8.56 | 15.61 | 24.17 | 0.63 | 24.80 | 5,924,385 | 79.2 |
| 2028 | 24,860,052 | 8.00 | 4.00 | 7.49 | 8.57 | 15.60 | 24.17 | 0.63 | 24.80 | 6,165,293 | 81.3 |
| 2029 | 25,860,712 | 8.00 | 4.00 | 7.49 | 8.58 | 15.60 | 24.18 | 0.63 | 24.81 | 6,416,043 | 83.4 |
| 2030 | 26,890,536 | 8.00 | 4.00 | 7.49 | 8.58 | 15.60 | 24.18 | 0.63 | 24.81 | 6,671,542 | 85.6 |
| 2031 | 27,952,132 | 8.00 | 4.00 | 7.49 | 8.58 | 15.61 | 24.19 | 0.63 | 24.82 | 6,937,719 | 88.0 |
| 2032 | 29,049,160 | 8.00 | 4.00 | 7.49 | 8.57 | 15.62 | 24.19 | 0.63 | 24.82 | 7,210,002 | 90.4 |
| 2033 | 30,180,558 | 8.00 | 4.00 | 7.49 | 8.55 | 11.99 | 20.54 | 0.63 | 21.17 | 6,389,224 | 92.2 |
| 2034 | 31,352,307 | 8.00 | 4.00 | 7.49 | 8.53 | 10.46 | 18.99 | 0.63 | 19.62 | 6,151,323 | 93.8 |
| 2035 | 32,575,992 | 8.00 | 4.00 | 7.50 | 8.49 | 8.73 | 17.22 | 0.63 | 17.85 | 5,814,815 | 95.2 |
| 2036 | 33,858,884 | 8.00 | 4.00 | 7.50 | 8.47 | 7.18 | 15.65 | 0.63 | 16.28 | 5,512,226 | 96.4 |
| 2037 | 35,196,711 | 8.00 | 4.00 | 7.50 | 8.45 | 5.20 | 13.65 | 0.63 | 14.28 | 5,026,090 | 97.2 |
| 2038 | 36,596,245 | 8.00 | 4.00 | 7.50 | 8.43 | 4.78 | 13.21 | 0.63 | 13.84 | 5,064,920 | 98.0 |

The Board at its January 2009 meeting adopted to reduce the interest rate from 8.50% to 8.25% for the June 30, 2008 valuation and to 8.00% thereafter.



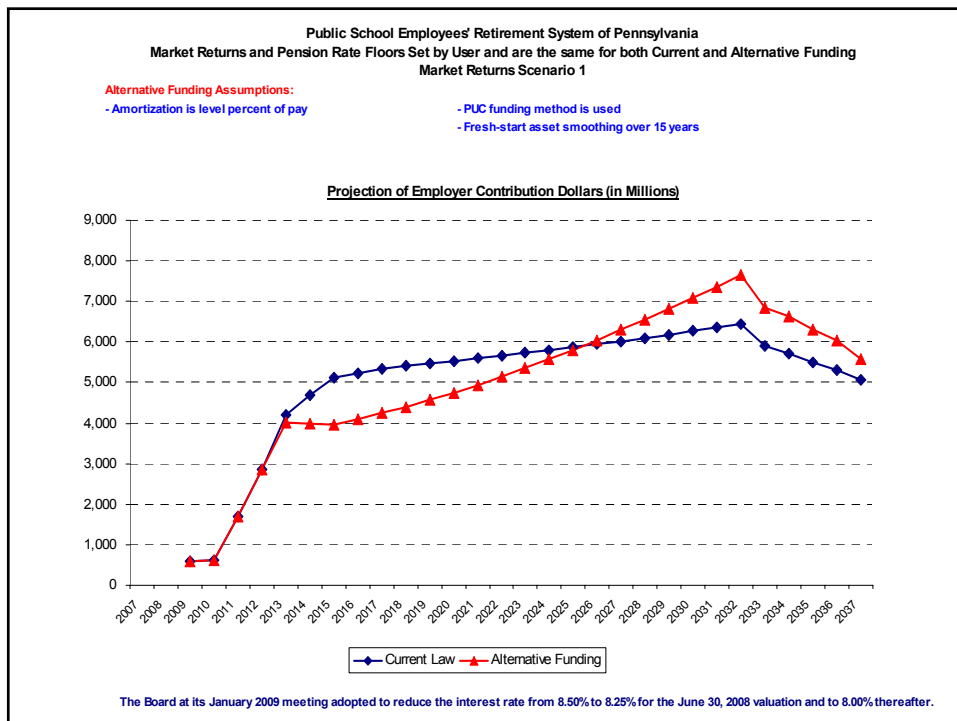
| Public School Employees' Retirement System of Pennsylvania Projection of Contribution Rates and Funded Ratios As of June 30, 2008 Market Returns and Pension Rate Floors Set by User | | | | | | | | | | | | |
|--|-----------------------------------|-----------------------------------|--------------------|----------------------------|----------------------|-------------------------|-----------------------------------|--------------------------|----------------------------------|---|--------------|--|
| Market Returns Scenario 1 Alternative Funding assumptions: - Amortization is level percent of pay - PUC funding method is used - Fresh-start asset smoothing over 15 years | | | | | | | | | | | | |
| Fiscal Year Ending June | Appropriation Payroll (thousands) | Fiscal Year Market Rate of Return | Pension Rate Floor | Employee Contribution Rate | Employer Normal Cost | Unfunded Liability Rate | Preliminary Employer Pension Rate | Health Care Contribution | Total Employer Contribution Rate | Projected Total Employer Contribution (thousands) | Funded Ratio | |
| 2007 | \$ 11,821,951 | 22.93 % | 4.00 % | 7.21 % | 6.62 % | (0.95) % | 5.67 % | 0.74 % | 6.46 % | | 85.8 % | |
| 2008 | 12,881,244 | (2.82) | 4.00 | 7.25 | 6.68 | (0.24) | 6.44 | 0.69 | 7.13 | | 86.0 | |
| 2009 | 12,402,702 | (30.00) | 4.00 | 7.29 | 6.68 | (3.37) | 3.31 | 0.76 | 4.76 | \$ 590,369 | 58.1 | |
| 2010 | 12,899,000 | | 4.00 | 7.32 | 7.35 | (3.72) | 3.63 | 0.78 | 4.78 | 616,572 | 55.6 | |
| 2011 | 13,297,917 | 8.00 | 4.00 | 7.34 | 8.97 | 1.92 | 10.89 | 0.76 | 11.65 | 1,549,207 | 54.0 | |
| 2012 | 13,703,700 | 8.00 | 4.00 | 7.36 | 8.91 | 1.92 | 10.83 | 0.75 | 11.58 | 1,586,888 | 52.3 | |
| 2013 | 14,132,543 | 8.00 | 4.00 | 7.38 | 8.84 | 18.90 | 27.74 | 0.74 | 28.48 | 4,024,948 | 53.5 | |
| 2014 | 14,586,335 | 8.00 | 4.00 | 7.40 | 8.75 | 18.48 | 27.23 | 0.73 | 27.96 | 4,078,339 | 54.7 | |
| 2015 | 15,066,759 | 8.00 | 4.00 | 7.41 | 8.67 | 17.63 | 26.30 | 0.72 | 27.02 | 4,071,038 | 55.7 | |
| 2016 | 15,573,822 | 8.00 | 4.00 | 7.43 | 8.59 | 17.74 | 26.33 | 0.70 | 27.03 | 4,209,604 | 56.7 | |
| 2017 | 16,119,772 | 8.00 | 4.00 | 7.44 | 8.53 | 17.82 | 26.35 | 0.69 | 27.04 | 4,358,786 | 57.9 | |
| 2018 | 16,711,215 | 8.00 | 4.00 | 7.45 | 8.48 | 17.88 | 26.36 | 0.66 | 27.02 | 4,515,370 | 59.1 | |
| 2019 | 17,349,067 | 8.00 | 4.00 | 7.46 | 8.44 | 17.91 | 26.35 | 0.65 | 27.00 | 4,684,248 | 60.5 | |
| 2020 | 18,031,134 | 8.00 | 4.00 | 7.46 | 8.44 | 17.92 | 26.36 | 0.63 | 26.99 | 4,866,603 | 61.9 | |
| 2021 | 18,751,940 | 8.00 | 4.00 | 7.47 | 8.44 | 17.92 | 26.36 | 0.63 | 26.99 | 5,061,149 | 63.4 | |
| 2022 | 19,513,328 | 8.00 | 4.00 | 7.47 | 8.45 | 17.91 | 26.36 | 0.63 | 26.99 | 5,266,647 | 65.1 | |
| 2023 | 20,315,347 | 8.00 | 4.00 | 7.48 | 8.46 | 17.89 | 26.35 | 0.63 | 26.98 | 5,481,081 | 66.9 | |
| 2024 | 21,156,474 | 8.00 | 4.00 | 7.48 | 8.49 | 17.87 | 26.36 | 0.63 | 26.99 | 5,710,132 | 68.7 | |
| 2025 | 22,033,366 | 8.00 | 4.00 | 7.48 | 8.52 | 17.84 | 26.36 | 0.63 | 26.99 | 5,946,805 | 70.7 | |
| 2026 | 22,945,071 | 8.00 | 4.00 | 7.48 | 8.55 | 17.82 | 26.37 | 0.63 | 27.00 | 6,195,169 | 72.8 | |
| 2027 | 23,888,648 | 8.00 | 4.00 | 7.49 | 8.56 | 17.80 | 26.36 | 0.63 | 26.99 | 6,447,546 | 75.0 | |
| 2028 | 24,860,052 | 8.00 | 4.00 | 7.49 | 8.57 | 17.79 | 26.36 | 0.63 | 26.99 | 6,709,728 | 77.3 | |
| 2029 | 25,860,712 | 8.00 | 4.00 | 7.49 | 8.58 | 17.78 | 26.36 | 0.63 | 26.99 | 6,979,806 | 79.7 | |
| 2030 | 26,890,536 | 8.00 | 4.00 | 7.49 | 8.58 | 17.79 | 26.37 | 0.63 | 27.00 | 7,260,445 | 82.1 | |
| 2031 | 27,952,132 | 8.00 | 4.00 | 7.49 | 8.58 | 17.80 | 26.38 | 0.63 | 27.01 | 7,549,871 | 84.7 | |
| 2032 | 29,049,160 | 8.00 | 4.00 | 7.49 | 8.57 | 17.81 | 26.38 | 0.63 | 27.01 | 7,846,178 | 87.4 | |
| 2033 | 30,180,558 | 8.00 | 4.00 | 7.49 | 8.55 | 14.18 | 22.73 | 0.63 | 23.36 | 7,050,178 | 89.5 | |
| 2034 | 31,352,307 | 8.00 | 4.00 | 7.49 | 8.53 | 12.65 | 21.18 | 0.63 | 21.81 | 6,837,938 | 91.4 | |
| 2035 | 32,575,992 | 8.00 | 4.00 | 7.50 | 8.49 | 10.92 | 19.41 | 0.63 | 20.04 | 6,528,229 | 93.1 | |
| 2036 | 33,858,884 | 8.00 | 4.00 | 7.50 | 8.47 | 9.38 | 17.85 | 0.63 | 18.48 | 6,257,122 | 94.6 | |
| 2037 | 35,196,711 | 8.00 | 4.00 | 7.50 | 8.45 | 7.40 | 15.85 | 0.63 | 16.48 | 5,800,418 | 95.7 | |
| 2038 | 36,596,245 | 8.00 | 4.00 | 7.50 | 8.43 | 6.98 | 15.41 | 0.63 | 16.04 | 5,870,038 | 96.8 | |
| The Board at its January 2009 meeting adopted to reduce the interest rate from 8.50% to 8.25% for the June 30, 2008 valuation and to 8.00% thereafter. | | | | | | | | | | | | |

The Board at its January 2009 meeting adopted to reduce the interest rate from 8.50% to 8.25% for the June 30, 2008 valuation and to 8.00% thereafter.



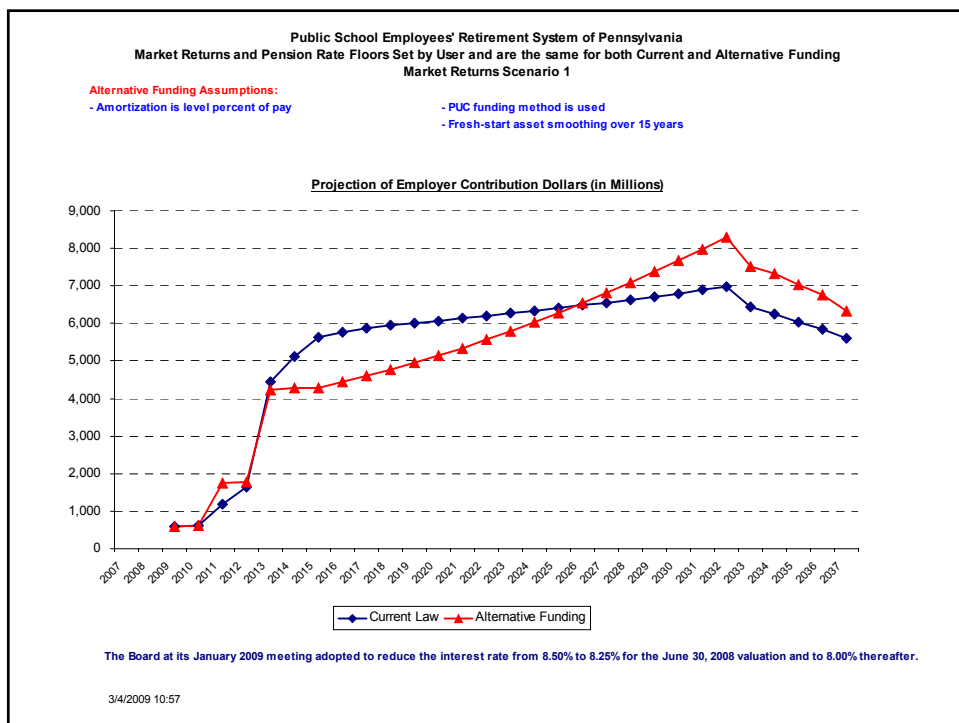
| Public School Employees' Retirement System of Pennsylvania Projection of Contribution Rates and Funded Ratios As of June 30, 2008 Market Returns and Pension Rate Floors Set by User | | | | | | | | | | | | |
|--|-----------------------------------|-----------------------------------|--------------------|----------------------------|----------------------|-------------------------|-----------------------------------|--------------------------|----------------------------------|---|--------------|--|
| Market Returns Scenario 1 Alternative Funding assumptions: Amortization is level percent of pay - PUC funding method is used - Fresh-start asset smoothing over 15 years | | | | | | | | | | | | |
| Fiscal Year Ending June | Appropriation Payroll (thousands) | Fiscal Year Market Rate of Return | Pension Rate Floor | Employee Contribution Rate | Employer Normal Cost | Unfunded Liability Rate | Preliminary Employer Pension Rate | Health Care Contribution | Total Employer Contribution Rate | Projected Total Employer Contribution (thousands) | Funded Ratio | |
| 2007 | \$ 11,821,951 | 22.93 % | 4.00 % | 7.21 % | 6.62 % | (0.95) % | 5.67 % | 0.74 % | 6.46 % | | 85.8 % | |
| 2008 | 12,881,244 | (2.82) | 4.00 | 7.25 | 6.68 | (0.24) | 6.44 | 0.69 | 7.13 | | 86.0 | |
| 2009 | 12,402,702 | (30.00) | 4.00 | 7.29 | 6.68 | (3.37) | 3.31 | 0.76 | 4.76 | \$ 590,369 | 58.1 | |
| 2010 | 12,899,000 | 8.00 | 4.00 | 7.32 | 7.35 | (3.72) | 3.63 | 0.78 | 4.78 | 616,572 | 55.6 | |
| 2011 | 13,297,917 | 8.00 | 12.00 | 7.34 | 8.97 | 1.92 | 10.89 | 0.76 | 12.76 | 1,696,814 | 54.3 | |
| 2012 | 13,703,700 | 8.00 | 20.00 | 7.36 | 8.91 | 1.92 | 10.83 | 0.75 | 20.75 | 2,843,518 | 54.2 | |
| 2013 | 14,132,543 | 8.00 | 4.00 | 7.38 | 8.84 | 18.83 | 27.67 | 0.74 | 28.41 | 4,015,055 | 55.5 | |
| 2014 | 14,586,335 | 8.00 | 4.00 | 7.40 | 8.75 | 17.84 | 26.59 | 0.73 | 27.32 | 3,984,987 | 56.6 | |
| 2015 | 15,066,759 | 8.00 | 4.00 | 7.41 | 8.67 | 16.98 | 25.65 | 0.72 | 26.37 | 3,973,104 | 57.6 | |
| 2016 | 15,573,822 | 8.00 | 4.00 | 7.43 | 8.59 | 17.09 | 25.68 | 0.70 | 26.38 | 4,108,374 | 58.6 | |
| 2017 | 16,119,772 | 8.00 | 4.00 | 7.44 | 8.53 | 17.17 | 25.70 | 0.69 | 26.39 | 4,254,008 | 59.7 | |
| 2018 | 16,711,215 | 8.00 | 4.00 | 7.45 | 8.48 | 17.22 | 25.70 | 0.66 | 26.36 | 4,405,076 | 60.9 | |
| 2019 | 17,349,067 | 8.00 | 4.00 | 7.46 | 8.44 | 17.25 | 25.69 | 0.65 | 26.34 | 4,569,744 | 62.2 | |
| 2020 | 18,031,134 | 8.00 | 4.00 | 7.46 | 8.44 | 17.26 | 25.70 | 0.63 | 26.33 | 4,747,598 | 63.6 | |
| 2021 | 18,751,940 | 8.00 | 4.00 | 7.47 | 8.44 | 17.26 | 25.70 | 0.63 | 26.33 | 4,937,386 | 65.1 | |
| 2022 | 19,513,328 | 8.00 | 4.00 | 7.47 | 8.45 | 17.25 | 25.70 | 0.63 | 26.33 | 5,137,859 | 66.8 | |
| 2023 | 20,315,347 | 8.00 | 4.00 | 7.48 | 8.46 | 17.24 | 25.70 | 0.63 | 26.33 | 5,349,031 | 68.5 | |
| 2024 | 21,156,474 | 8.00 | 4.00 | 7.48 | 8.49 | 17.21 | 25.70 | 0.63 | 26.33 | 5,570,500 | 70.3 | |
| 2025 | 22,033,366 | 8.00 | 4.00 | 7.48 | 8.52 | 17.19 | 25.71 | 0.63 | 26.34 | 5,803,589 | 72.2 | |
| 2026 | 22,945,071 | 8.00 | 4.00 | 7.48 | 8.55 | 17.17 | 25.72 | 0.63 | 26.35 | 6,046,026 | 74.2 | |
| 2027 | 23,888,648 | 8.00 | 4.00 | 7.49 | 8.56 | 17.15 | 25.71 | 0.63 | 26.34 | 6,292,270 | 76.4 | |
| 2028 | 24,860,052 | 8.00 | 4.00 | 7.49 | 8.57 | 17.14 | 25.71 | 0.63 | 26.34 | 6,548,138 | 78.6 | |
| 2029 | 25,860,712 | 8.00 | 4.00 | 7.49 | 8.58 | 17.13 | 25.71 | 0.63 | 26.34 | 6,811,712 | 80.9 | |
| 2030 | 26,890,536 | 8.00 | 4.00 | 7.49 | 8.58 | 17.14 | 25.72 | 0.63 | 26.35 | 7,085,656 | 83.3 | |
| 2031 | 27,952,132 | 8.00 | 4.00 | 7.49 | 8.58 | 17.14 | 25.72 | 0.63 | 26.35 | 7,365,387 | 85.8 | |
| 2032 | 29,049,160 | 8.00 | 4.00 | 7.49 | 8.57 | 17.16 | 25.73 | 0.63 | 26.36 | 7,657,359 | 88.4 | |
| 2033 | 30,180,558 | 8.00 | 4.00 | 7.49 | 8.55 | 13.53 | 22.08 | 0.63 | 22.71 | 6,854,005 | 90.5 | |
| 2034 | 31,352,307 | 8.00 | 4.00 | 7.49 | 8.53 | 12.00 | 20.53 | 0.63 | 21.16 | 6,634,148 | 92.3 | |
| 2035 | 32,575,992 | 8.00 | 4.00 | 7.50 | 8.49 | 10.27 | 18.76 | 0.63 | 19.39 | 6,316,485 | 93.9 | |
| 2036 | 33,858,884 | 8.00 | 4.00 | 7.50 | 8.47 | 8.73 | 17.20 | 0.63 | 17.83 | 6,037,039 | 95.3 | |
| 2037 | 35,196,711 | 8.00 | 4.00 | 7.50 | 8.45 | 6.75 | 15.20 | 0.63 | 15.83 | 5,571,639 | 96.3 | |
| 2038 | 36,596,245 | 8.00 | 4.00 | 7.50 | 8.43 | 6.33 | 14.76 | 0.63 | 15.39 | 5,632,162 | 97.4 | |

The Board at its January 2009 meeting adopted to reduce the interest rate from 8.50% to 8.25% for the June 30, 2008 valuation and to 8.00% thereafter.



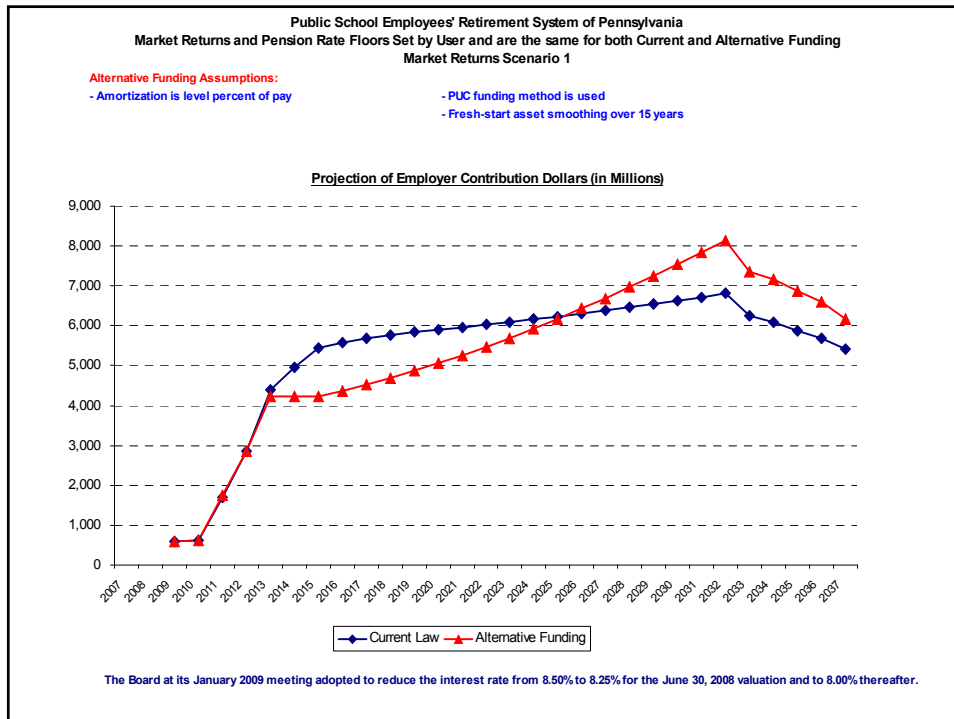
| Public School Employees' Retirement System of Pennsylvania Projection of Contribution Rates and Funded Ratios As of June 30, 2008 Market Returns and Pension Rate Floors Set by User | | | | | | | | | | | |
|--|-----------------------------------|-----------------------------------|--------------------|----------------------------|----------------------|-------------------------|-----------------------------------|--------------------------|----------------------------------|---|--------------|
| Market Returns Scenario 1 Alternative Funding assumptions: - Amortization is level percent of pay - PUC funding method is used - Fresh-start asset smoothing over 15 years | | | | | | | | | | | |
| Fiscal Year Ending June | Appropriation Payroll (thousands) | Fiscal Year Market Rate of Return | Pension Rate Floor | Employee Contribution Rate | Employer Normal Cost | Unfunded Liability Rate | Preliminary Employer Pension Rate | Health Care Contribution | Total Employer Contribution Rate | Projected Total Employer Contribution (thousands) | Funded Ratio |
| 2007 | \$ 11,821,951 | 22.93 % | 4.00 % | 7.21 % | 6.62 % | (0.95) % | 5.67 % | 0.74 % | 6.46 % | | 85.8 % |
| 2008 | 12,881,244 | (2.82) | 4.00 | 7.25 | 6.68 | (0.24) | 6.44 | 0.69 | 7.13 | | 86.0 |
| 2009 | 12,402,702 | (35.00) | 4.00 | 7.29 | 6.68 | (3.37) | 3.31 | 0.76 | 4.76 | \$ 590,369 | 53.8 |
| 2010 | 12,899,000 | 8.00 | 4.00 | 7.32 | 7.35 | (3.72) | 3.63 | 0.78 | 4.78 | 616,572 | 51.1 |
| 2011 | 13,297,917 | 8.00 | 4.00 | 7.34 | 8.97 | 3.38 | 12.35 | 0.76 | 13.11 | 1,743,357 | 49.6 |
| 2012 | 13,703,700 | 8.00 | 4.00 | 7.36 | 8.91 | 3.39 | 12.30 | 0.75 | 13.05 | 1,788,333 | 48.0 |
| 2013 | 14,132,543 | 8.00 | 4.00 | 7.38 | 8.84 | 20.39 | 29.23 | 0.74 | 29.97 | 4,235,523 | 49.2 |
| 2014 | 14,586,335 | 8.00 | 4.00 | 7.40 | 8.75 | 19.98 | 28.73 | 0.73 | 29.46 | 4,297,134 | 50.4 |
| 2015 | 15,066,759 | 8.00 | 4.00 | 7.41 | 8.67 | 19.13 | 27.80 | 0.72 | 28.52 | 4,297,040 | 51.5 |
| 2016 | 15,573,822 | 8.00 | 4.00 | 7.43 | 8.59 | 19.25 | 27.84 | 0.70 | 28.54 | 4,444,769 | 52.6 |
| 2017 | 16,119,772 | 8.00 | 4.00 | 7.44 | 8.53 | 19.34 | 27.87 | 0.69 | 28.56 | 4,603,807 | 53.9 |
| 2018 | 16,711,215 | 8.00 | 4.00 | 7.45 | 8.48 | 19.41 | 27.89 | 0.66 | 28.55 | 4,771,052 | 55.2 |
| 2019 | 17,349,067 | 8.00 | 4.00 | 7.46 | 8.44 | 19.44 | 27.88 | 0.65 | 28.53 | 4,949,689 | 56.6 |
| 2020 | 18,031,134 | 8.00 | 4.00 | 7.46 | 8.44 | 19.45 | 27.89 | 0.63 | 28.52 | 5,142,479 | 58.2 |
| 2021 | 18,751,940 | 8.00 | 4.00 | 7.47 | 8.44 | 19.45 | 27.89 | 0.63 | 28.52 | 5,348,053 | 59.8 |
| 2022 | 19,513,328 | 8.00 | 4.00 | 7.47 | 8.45 | 19.44 | 27.89 | 0.63 | 28.52 | 5,565,201 | 61.6 |
| 2023 | 20,315,347 | 8.00 | 4.00 | 7.48 | 8.46 | 19.42 | 27.88 | 0.63 | 28.51 | 5,791,905 | 63.5 |
| 2024 | 21,156,474 | 8.00 | 4.00 | 7.48 | 8.49 | 19.40 | 27.89 | 0.63 | 28.52 | 6,033,826 | 65.5 |
| 2025 | 22,033,366 | 8.00 | 4.00 | 7.48 | 8.52 | 19.37 | 27.89 | 0.63 | 28.52 | 6,283,916 | 67.7 |
| 2026 | 22,945,071 | 8.00 | 4.00 | 7.48 | 8.55 | 19.34 | 27.89 | 0.63 | 28.52 | 6,543,934 | 69.9 |
| 2027 | 23,888,648 | 8.00 | 4.00 | 7.49 | 8.56 | 19.32 | 27.88 | 0.63 | 28.51 | 6,810,654 | 72.2 |
| 2028 | 24,860,052 | 8.00 | 4.00 | 7.49 | 8.57 | 19.31 | 27.88 | 0.63 | 28.51 | 7,087,601 | 74.7 |
| 2029 | 25,860,712 | 8.00 | 4.00 | 7.49 | 8.58 | 19.30 | 27.88 | 0.63 | 28.51 | 7,372,889 | 77.2 |
| 2030 | 26,890,536 | 8.00 | 4.00 | 7.49 | 8.58 | 19.31 | 27.89 | 0.63 | 28.52 | 7,669,181 | 79.9 |
| 2031 | 27,952,132 | 8.00 | 4.00 | 7.49 | 8.58 | 19.32 | 27.90 | 0.63 | 28.53 | 7,974,743 | 82.7 |
| 2032 | 29,049,160 | 8.00 | 4.00 | 7.49 | 8.57 | 19.33 | 27.90 | 0.63 | 28.53 | 8,287,725 | 85.5 |
| 2033 | 30,180,558 | 8.00 | 4.00 | 7.49 | 8.55 | 15.70 | 24.25 | 0.63 | 24.88 | 7,508,923 | 87.9 |
| 2034 | 31,352,307 | 8.00 | 4.00 | 7.49 | 8.53 | 14.18 | 22.71 | 0.63 | 23.34 | 7,317,628 | 90.0 |
| 2035 | 32,575,992 | 8.00 | 4.00 | 7.50 | 8.49 | 12.45 | 20.94 | 0.63 | 21.57 | 7,026,641 | 91.9 |
| 2036 | 33,858,884 | 8.00 | 4.00 | 7.50 | 8.47 | 10.91 | 19.38 | 0.63 | 20.01 | 6,775,163 | 93.6 |
| 2037 | 35,196,711 | 8.00 | 4.00 | 7.50 | 8.45 | 8.93 | 17.38 | 0.63 | 18.01 | 6,338,928 | 95.0 |
| 2038 | 36,596,245 | 8.00 | 4.00 | 7.50 | 8.43 | 8.51 | 16.94 | 0.63 | 17.57 | 6,429,960 | 96.3 |

The Board at its January 2009 meeting adopted to reduce the interest rate from 8.50% to 8.25% for the June 30, 2008 valuation and to 8.00% thereafter.



| Public School Employees' Retirement System of Pennsylvania Projection of Contribution Rates and Funded Ratios As of June 30, 2008 Market Returns and Pension Rate Floors Set by User | | | | | | | | | | | | |
|--|-----------------------------------|-----------------------------------|--------------------|----------------------------|----------------------|-------------------------|-----------------------------------|--------------------------|----------------------------------|---|--------------|--|
| Market Returns Scenario 1 | | | | | | | | | | | | |
| Alternative Funding assumptions: Amortization is level percent of pay - PUC funding method is used - Fresh-start asset smoothing over 15 years | | | | | | | | | | | | |
| Calendar Year | Appropriation Payroll (thousands) | Fiscal Year Market Rate of Return | Pension Rate Floor | Employee Contribution Rate | Employer Normal Cost | Unfunded Liability Rate | Preliminary Employer Pension Rate | Health Care Contribution | Total Employer Contribution Rate | Projected Total Employer Contribution (thousands) | Funded Ratio | |
| 2007 | \$ 11,821,951 | 22.93 % | 4.00 % | 7.21 % | 6.62 % | (0.95) % | 5.67 % | 0.74 % | 6.46 % | | 85.8 % | |
| 2008 | 12,881,244 | (2.82) | 4.00 | 7.25 | 6.68 | (0.24) | 6.44 | 0.69 | 7.13 | | 86.0 | |
| 2009 | 12,402,702 | (35.00) | 4.00 | 7.29 | 6.68 | (3.37) | 3.31 | 0.76 | 4.76 | \$ 590,369 | 53.8 | |
| 2010 | 12,899,000 | 8.00 | 4.00 | 7.32 | 7.35 | (3.72) | 3.63 | 0.78 | 4.78 | 616,572 | 51.1 | |
| 2011 | 13,297,917 | 8.00 | 12.00 | 7.34 | 8.97 | 3.38 | 12.35 | 0.76 | 13.11 | 1,743,357 | 49.6 | |
| 2012 | 13,703,700 | 8.00 | 20.00 | 7.36 | 8.91 | 3.39 | 12.30 | 0.75 | 20.75 | 2,843,518 | 49.4 | |
| 2013 | 14,132,543 | 8.00 | 4.00 | 7.38 | 8.84 | 20.39 | 29.23 | 0.74 | 29.97 | 4,235,523 | 50.7 | |
| 2014 | 14,586,335 | 8.00 | 4.00 | 7.40 | 8.75 | 19.50 | 28.25 | 0.73 | 28.98 | 4,227,120 | 51.9 | |
| 2015 | 15,066,759 | 8.00 | 4.00 | 7.41 | 8.67 | 18.65 | 27.32 | 0.72 | 28.04 | 4,224,719 | 52.9 | |
| 2016 | 15,573,822 | 8.00 | 4.00 | 7.43 | 8.59 | 18.77 | 27.36 | 0.70 | 28.06 | 4,370,014 | 54.1 | |
| 2017 | 16,119,772 | 8.00 | 4.00 | 7.44 | 8.53 | 18.86 | 27.39 | 0.69 | 28.08 | 4,526,432 | 55.3 | |
| 2018 | 16,711,215 | 8.00 | 4.00 | 7.45 | 8.48 | 18.92 | 27.40 | 0.66 | 28.06 | 4,689,167 | 56.6 | |
| 2019 | 17,349,067 | 8.00 | 4.00 | 7.46 | 8.44 | 18.95 | 27.39 | 0.65 | 28.04 | 4,864,678 | 58.0 | |
| 2020 | 18,031,134 | 8.00 | 4.00 | 7.46 | 8.44 | 18.96 | 27.40 | 0.63 | 28.03 | 5,054,127 | 59.5 | |
| 2021 | 18,751,940 | 8.00 | 4.00 | 7.47 | 8.44 | 18.96 | 27.40 | 0.63 | 28.03 | 5,256,169 | 61.1 | |
| 2022 | 19,513,328 | 8.00 | 4.00 | 7.47 | 8.45 | 18.95 | 27.40 | 0.63 | 28.03 | 5,469,586 | 62.9 | |
| 2023 | 20,315,347 | 8.00 | 4.00 | 7.48 | 8.46 | 18.93 | 27.39 | 0.63 | 28.02 | 5,692,360 | 64.7 | |
| 2024 | 21,156,474 | 8.00 | 4.00 | 7.48 | 8.49 | 18.91 | 27.40 | 0.63 | 28.03 | 5,930,160 | 66.7 | |
| 2025 | 22,033,366 | 8.00 | 4.00 | 7.48 | 8.52 | 18.88 | 27.40 | 0.63 | 28.03 | 6,175,952 | 68.8 | |
| 2026 | 22,945,071 | 8.00 | 4.00 | 7.48 | 8.55 | 18.85 | 27.40 | 0.63 | 28.03 | 6,431,503 | 71.0 | |
| 2027 | 23,888,648 | 8.00 | 4.00 | 7.49 | 8.56 | 18.83 | 27.39 | 0.63 | 28.02 | 6,693,599 | 73.3 | |
| 2028 | 24,860,052 | 8.00 | 4.00 | 7.49 | 8.57 | 18.82 | 27.39 | 0.63 | 28.02 | 6,965,787 | 75.7 | |
| 2029 | 25,860,712 | 8.00 | 4.00 | 7.49 | 8.58 | 18.82 | 27.40 | 0.63 | 28.03 | 7,248,758 | 78.2 | |
| 2030 | 26,890,536 | 8.00 | 4.00 | 7.49 | 8.58 | 18.82 | 27.40 | 0.63 | 28.03 | 7,537,417 | 80.8 | |
| 2031 | 27,952,132 | 8.00 | 4.00 | 7.49 | 8.58 | 18.83 | 27.41 | 0.63 | 28.04 | 7,837,778 | 83.5 | |
| 2032 | 29,049,160 | 8.00 | 4.00 | 7.49 | 8.57 | 18.84 | 27.41 | 0.63 | 28.04 | 8,145,384 | 86.3 | |
| 2033 | 30,180,558 | 8.00 | 4.00 | 7.49 | 8.55 | 15.22 | 23.77 | 0.63 | 24.40 | 7,364,056 | 88.6 | |
| 2034 | 31,352,307 | 8.00 | 4.00 | 7.49 | 8.53 | 13.69 | 22.22 | 0.63 | 22.85 | 7,164,002 | 90.7 | |
| 2035 | 32,575,992 | 8.00 | 4.00 | 7.50 | 8.49 | 11.96 | 20.45 | 0.63 | 21.08 | 6,867,019 | 92.5 | |
| 2036 | 33,858,884 | 8.00 | 4.00 | 7.50 | 8.47 | 10.42 | 18.89 | 0.63 | 19.52 | 6,609,254 | 94.1 | |
| 2037 | 35,196,711 | 8.00 | 4.00 | 7.50 | 8.45 | 8.44 | 16.89 | 0.63 | 17.52 | 6,166,464 | 95.4 | |
| 2038 | 36,596,245 | 8.00 | 4.00 | 7.50 | 8.43 | 8.02 | 16.45 | 0.63 | 17.08 | 6,250,639 | 96.7 | |

The Board at its January 2009 meeting adopted to reduce the interest rate from 8.50% to 8.25% for the June 30, 2008 valuation and to 8.00% thereafter.



Conclusion

- **There is no silver bullet**
 - Solution will likely be a combination of approaches
- **The Act 40 decrease projected in the employer contribution rate over the next couple of years will not occur**
- **Under all remedies there will be a need for significant additional funding to the System**
- **Converting the System to a DC/Hybrid plan will not affect the current liabilities and immediate funding concerns**
- **As in the past, PSERS is committed to providing assistance to the General Assembly to solve the rate spike and future funding issues**
 - Will keep PASBO and other constituent groups apprised of developments in the coming year

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Rate Projection Assumptions

- **The employer rate projections contained in this presentation are simply that; projections based on certain assumptions**
- **Therefore the projected rates can change**
- **The rates may decrease with investment performance over PSERS' 8.0% actuarial assumption and vice versa**
- **Also the projected employer rates and related data are impacted by actual experience that varies from the mortality, salary growth, and other economic and demographic assumptions of the System**
- **Benefit enhancements will also impact the rate projections**

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Leadership • Service • Advocacy

PSBA Pension Reform Plan

Thomas J. Gentzel
PSBA Executive Director

PASBO Web Conference
March 9, 2009



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Pension Study Committee

Background – 2006

- Platform proposals supporting PSERS change from defined benefit (DB) to defined contribution (DC) plan
- Board Retreat: Agreed issue should be studied
- Platform proposals not forwarded to Legislative Policy Council to permit PSC review, recommendations



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Pension Study Committee

Background – 2006

- Sept.: PSBA Board approves formation of Pension Study Comm.; Pam Markle named chairperson
- Sept.-Nov.: Volunteers solicited
- Nov.: 8 school directors appointed



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Pension Study Committee

Background – 2007

- PSC holds 3 meetings (Jan., Mar. & May)
- Meets with:
 - PSERS
 - Commonwealth Foundation
 - Keystone Research Center
 - Nat'l Association of State Retirement Administrators



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Pension Study Committee

Key Issues Identified

- Benefits increased (Act 9) at same time economy slowed
- Original employer rate spike projection: 27%; now potentially less than 13%
- Drop is due to excellent investment returns
- No guarantee returns will remain high



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Pension Study Committee

Key Issues Identified

- PSERS very well managed; otherwise problem would be even more severe
- Benefits for current, active school employees cannot be reduced; prospective changes, only
- Any new plan creates added cost, could reduce expenses over long term



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Pension Study Committee

Key Terms

- DB Plan: Retirement benefit determined by formula, based on years of service and final average salary
- DC Plan: Retirement benefit determined by employer & employee contributions, and investment returns
- Hybrid Plan: Combine DB & DC elements



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Pension Study Committee

DB Pros and Cons

- DB Pros: Efficient asset generator; less costly to administer; offset to pay differential with private sector; promote employee retention
- DB Cons: Rate volatility; not portable; employer bears risk, long-term liability; longer vesting period; gap with private sector



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Pension Study Committee

DC Pros and Cons

- DC Pros: Portable; fixed employer cost; no benefit limit; aligned with private sector
- DC Cons: Lack long-term horizon; personal investment skills can cause under-funding & mismatch of assets and lifespan; more costly to manage; less employee retention



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PSBA Pension Reform Plan

PSC Recommendations*

- Two-tier system
- Maintain *current plan* for all current employees
- New *hybrid plan* for future employees

*Full text of report available at: <http://www.psba.org/issues-advocacy/issues-research/funding-finance/PSBAPensionStudyCommitteeReport.pdf>



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PSBA Pension Reform Plan

PSC Recommendations

- Hybrid plan:
 - DB features: lower multiplier; longer vesting period; mandatory fixed contribution; employer contribution lower than current plan
 - DC features: employees contribute minimum % of salary, with employer match
 - Current employees allowed to switch to new plan



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PSBA Pension Reform Plan

PSC Recommendations

- For both plans:
 - SD rate capped at Act 1 (or successor) index; state government pays balance
 - No benefit enhancements
 - PSERS responsible for administration



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PSBA Pension Reform Plan

PSC Recommendations

- Employer contribution rate floor for current plan set at Normal Cost
- Implement “Fresh Start” to revalue PSERS assets to market and re-amortize current and future gains & losses over 30 years
- Oppose pension benefit enhancements



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PSBA Pension Reform Plan

Implementing the Plan

- Recommendations approved as official PSBA policy
- PSBA has worked with attorneys and actuaries to put plan into legislative format
- Goal: Advance our proposal for consideration as part of pension reform debate



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PSBA Pension Reform Plan

Implementing the Plan

- Proposal now in bill form
- Prime sponsor: Rep. Ron Miller (R-York)
- Co-sponsorship memo circulating
- Pension reform presented as part of PSBA's *Focusing Resources on Educational Expenses (FREE)* initiative



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PASBO Advocacy Call to Action

Jay Himes, CAE, Executive Director
Pennsylvania Association of School
Business Officials



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Developing educational leaders in school operations.

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Pending Legislation

- House Bill 30 (Daley)
 - 30 and out with transfer of 60% of “savings” (retiree salary less replacement salary) to PSERS
 - PDE deducts from LEA payments and submits to PSERS
- House Bill 498 (Reed)
 - COLA of 5% for the next four years for annuitants as of June 30, 2001
 - Actuarial certification that “sufficient reserves exist” to fund COLA without “employer contributions” and without “added cost to taxpayers....”



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Pending Legislation

- Senate Bill 52 (Greenleaf)
 - 30 and out two year window



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What Can You Do?

- Educate
- Advocate
- Prepare
- Your board, taxpayers and legislators
- PASBO Legislative Priority



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Questions & Answers

- Send text questions using the “Chat” function at the left side of your screen. Type message under the gray bar and click send.
- If you do not have access to the “Chat” function, send questions by email to cshearer@pasbo.org



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*Thank you for your
participation!*

REMINDER:

- Desktop sites are reminded to return an Attendance Report for each participant. All forms must be received by March 16 for credit to be given.



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PSERS Worksheet

| FY | Est. Payroll Subject to PSERS | Estimated PSERS Rate | Estimated Retirement Expense | Estimated State Share | Net District Cost | Change | Millage Equivalent of PSERS Increase | Millage Equivalent of PSERS District Total |
|----|-------------------------------|----------------------|------------------------------|-----------------------|-------------------|-----------|--------------------------------------|--|
| 09 | 23,923,000 | 4.76 | 1,138,735 | 614,917 | 523,818 | | | 1.10 |
| 10 | 24,640,690 | 4.78 | 1,177,825 | 636,025 | 541,799 | 17,981 | 0.038 | 1.14 |
| 11 | 25,379,911 | 4.76 | 1,208,084 | 652,365 | 555,719 | 13,919 | 0.029 | 1.17 |
| 12 | 26,141,308 | 4.75 | 1,241,712 | 670,525 | 571,188 | 15,469 | 0.033 | 1.20 |
| 13 | 26,925,547 | 16.40 | 4,415,790 | 2,384,526 | 2,031,263 | 1,460,076 | 3.074 | 4.28 |
| 14 | 27,733,314 | 16.06 | 4,453,970 | 2,405,144 | 2,048,826 | 17,563 | 0.037 | 4.31 |
| 15 | 28,565,313 | 14.87 | 4,247,662 | 2,293,738 | 1,953,925 | (94,902) | (0.200) | 4.11 |
| 16 | 29,422,272 | 14.59 | 4,292,710 | 2,318,063 | 1,974,646 | 20,722 | 0.044 | 4.16 |
| 17 | 30,304,941 | 14.34 | 4,345,728 | 2,346,693 | 1,999,035 | 24,389 | 0.051 | 4.21 |
| | | | | | 12,200,219 | | 3.106 | |

| FY | Est. Payroll Subject to PSERS | Estimated PSERS Rate | District's Share of PSERS Rate | District PSERS Cost | District Budget PSERS Rate | Total Budget Rate | District \$ Budget | Transfer To/(From) PSERS Reserve | Cumulative Reserve | Equivalent of PSERS Increase |
|----|-------------------------------|----------------------|--------------------------------|---------------------|----------------------------|-------------------|--------------------|----------------------------------|--------------------|------------------------------|
| 09 | 23,923,000 | 4.76 | 2.19 | 523,818 | 2.19 | 4.76 | 523,818 | - | | |
| 10 | 24,640,690 | 4.78 | 2.20 | 541,799 | 3.25 | 5.83 | 800,822 | 259,023 | 259,023 | 0.583 |
| 11 | 25,379,911 | 4.76 | 2.19 | 555,719 | 4.00 | 6.57 | 1,015,196 | 459,478 | 718,501 | 0.451 |
| 12 | 26,141,308 | 4.75 | 2.19 | 571,188 | 4.50 | 7.07 | 1,176,359 | 605,171 | 1,323,672 | 0.339 |
| 13 | 26,925,547 | 16.40 | 7.54 | 2,031,263 | 5.00 | 13.86 | 1,346,277 | (684,986) | 638,686 | 0.358 |
| 14 | 27,733,314 | 16.06 | 7.39 | 2,048,826 | 5.50 | 14.17 | 1,525,332 | (523,494) | 115,192 | 0.377 |
| 15 | 28,565,313 | 14.87 | 6.84 | 1,953,925 | 6.60 | 14.63 | 1,885,311 | (68,614) | 46,578 | 0.758 |
| 16 | 29,422,272 | 14.59 | 6.71 | 1,974,646 | 6.60 | 14.48 | 1,941,870 | (32,776) | 13,802 | 0.119 |
| 17 | 30,304,941 | 14.34 | 6.60 | 1,999,035 | 6.60 | 14.34 | 2,000,126 | 1,091 | 14,893 | 0.123 |
| | | | | | | | 12,215,112 | | | 3.108 |

| | | |
|-----------------------------------|--|-------------|
| Estimated FY09 Payroll | | 23,923,000 |
| Estimated Annual Payroll Increase | | 1.03 |
| Estimated PSERS Reimbursement % | | 54.00% |
| Mills | | 22.350 |
| Assessed Value | | 500,000,000 |
| Estimated RE Collection Rate | | 95.00% |
| Net Value of a Mill | | 475,000 |

PSERS Worksheet

| FY | Est. Payroll Subject to PSERS | Estimated PSERS Rate | Estimated Retirement Expense | Estimated State Share | Net District Cost | Change | Millage Equivalent of PSERS Increase | Millage Equivalent of PSERS District Total |
|----|-------------------------------|----------------------|------------------------------|-----------------------|-------------------|-----------|--------------------------------------|--|
| 09 | 23,923,000 | 4.76 | 1,138,735 | 614,917 | 523,818 | | | 0.37 |
| 10 | 24,640,690 | 4.78 | 1,177,825 | 636,025 | 541,799 | 17,981 | 0.013 | 0.38 |
| 11 | 25,379,911 | 4.76 | 1,208,084 | 652,365 | 555,719 | 13,919 | 0.010 | 0.39 |
| 12 | 26,141,308 | 6.94 | 1,814,207 | 979,672 | 834,535 | 278,817 | 0.198 | 0.59 |
| 13 | 26,925,547 | 26.04 | 7,011,413 | 3,786,163 | 3,225,250 | 2,390,715 | 1.695 | 2.29 |
| 14 | 27,733,314 | 29.10 | 8,070,394 | 4,358,013 | 3,712,381 | 487,132 | 0.345 | 2.63 |
| 15 | 28,565,313 | 30.75 | 8,783,834 | 4,743,270 | 4,040,564 | 328,182 | 0.233 | 2.86 |
| 16 | 29,422,272 | 30.48 | 8,967,909 | 4,842,671 | 4,125,238 | 84,674 | 0.060 | 2.92 |
| 17 | 30,304,941 | 30.02 | 9,097,543 | 4,912,673 | 4,184,870 | 59,632 | 0.042 | 2.97 |
| | | | | | 21,744,174 | | 2.596 | |

| FY | Est. Payroll Subject to PSERS | Estimated PSERS Rate | District's Share of PSERS Rate | District PSERS Cost | District Budget PSERS Rate | State & District (Total) Budgeted Rate | District \$ Budget | Transfer To/(From) PSERS Reserve | Cumulative Reserve | Millage Equivalent of PSERS Increase |
|----|-------------------------------|----------------------|--------------------------------|---------------------|----------------------------|--|--------------------|----------------------------------|--------------------|--------------------------------------|
| 09 | 23,923,000 | 4.76 | 2.19 | 523,818 | 2.19 | 4.76 | 523,818 | - | | |
| 10 | 24,640,690 | 4.78 | 2.20 | 541,799 | 4.00 | 6.58 | 985,628 | 443,828 | 443,828 | 0.327 |
| 11 | 25,379,911 | 4.76 | 2.19 | 555,719 | 5.00 | 7.57 | 1,268,996 | 713,277 | 1,157,105 | 0.201 |
| 12 | 26,141,308 | 6.94 | 3.19 | 834,535 | 8.00 | 11.75 | 2,091,305 | 1,256,770 | 2,413,875 | 0.583 |
| 13 | 26,925,547 | 26.04 | 11.98 | 3,225,250 | 10.00 | 24.06 | 2,692,555 | (532,695) | 1,881,180 | 0.426 |
| 14 | 27,733,314 | 29.10 | 13.39 | 3,712,381 | 12.00 | 27.71 | 3,327,998 | (384,384) | 1,496,796 | 0.451 |
| 15 | 28,565,313 | 30.75 | 14.15 | 4,040,564 | 12.00 | 28.61 | 3,427,838 | (612,726) | 884,070 | 0.071 |
| 16 | 29,422,272 | 30.48 | 14.02 | 4,125,238 | 12.00 | 28.46 | 3,530,673 | (594,565) | 289,505 | 0.073 |
| 17 | 30,304,941 | 30.02 | 13.81 | 4,184,870 | 13.00 | 29.21 | 3,939,642 | (245,228) | 44,277 | 0.290 |
| | | | | 21,744,174 | | | 21,788,451 | | | 2.422 |

| | |
|-----------------------------------|---------------|
| Estimated FY09 Payroll | 23,923,000 |
| Estimated Annual Payroll Increase | 1.03 |
| Estimated PSERS Reimbursement % | 54.00% |
| Mills | 13.400 |
| Assessed Value | 1,533,000,000 |
| Estimated RE Collection Rate | 92.00% |
| Net Value of a Mill | 1,410,360 |



Pennsylvania Association of School Business Officials

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PASBO Webcast Attendance Form

Each participant, including the primary registrant, must complete a form for attendance and credit purposes.

Forms must be returned to PASBO within 7 calendar days following the program date.

Webcast Date: _____ Webcast Title: _____

Primary Registrant (person who received email instructions): _____

Primary Registrant's School Entity: _____

[Participants not from host school entity will be invoiced at a per district rate.]

Attendee Name: _____ Title: _____

School Entity: _____ Relationship to School Entity: _____

Employer (if different from school): _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Phone: (_____) _____ Fax: (_____) _____

Email: _____

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☐ Act 48 Credit (Please provide your PDE PPID # _____)

I certify that I participated in the entire live webcast presentation.

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Mail to PASBO, PO Box 6993, Harrisburg, PA 17112

Scan and email to krogers@pasbo.org

Fax to 717-540-1796

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(Credit is available for participation in the live program only)*