



Understanding Public Pension Plan's Unfunded Liability

Florida Public Pension Trustees Association (FPPTA)

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EXECUTIVE SUMMARY

- Florida local retirement plans covering police, firefighters and general employees are not **underfunded**. They do have an unfunded liability. There is nothing intrinsically wrong with having an unfunded liability.
- No Florida public plan sponsor failed to make the annual minimum required contribution to its retirement plan.
- As long as the plan sponsor meets the funding needs of the retirement system over the long term, the unfunded liability will not negatively impact the long term funding progress of the retirement system.
- Most retirement systems have a plan to pay off the unfunded liability in 20 years.
- The fact that a retirement system has an unfunded liability does not mean the plan is underfunded.
- The recent upturn in the stock market – in 2010 and projected for 2011 will help the plan to recover any losses experienced in the 2000-2003 and 2008-2009 market downturns.
- Local government plan sponsors do not have to take drastic and immediate actions to reduce or pay off the plan's unfunded actuarial liability. It is being "paid down" in the same way you pay down your home mortgage. The annual contributions contain a payment toward this unfunded liability.
- The health of a public retirement plan is not determined by the unfunded liability. The health of the plan has more to do with the city's ability and willingness to make the minimum required contribution.

UNDERSTANDING UNFUNDED LIABILITY

“The fact that an unfunded accrued liability exists does not mean that a plan is underfunded. There is nothing intrinsically wrong with having an unfunded liability. Unfunded liabilities are a natural part of retirement system funding, comparable to a mortgage on a home.”

Jose Fernandez, Principal and Consulting Actuary, Cavanaugh Macdonald Consulting, LLC

Unfunded versus Underfunded Plan

There is a substantial difference between **unfunded** and **underfunded** pension plans; however, the media reports fail to make a distinction.

If public pension plans were truly “unfunded,” it would mean the employer pays the current pension benefits out of tax revenues each year. Instead, public plans are prefunded to account for the benefits that accrue over the lifetime of an employee. These funds (contributions by employers and employees, plus earnings on investments) ensure that when the pension benefits of these employees come payable, there will be sufficient funds to pay the benefits.

If a plan was on a “pay as you go basis,” it would be simple to calculate the yearly costs of the plan – but would transfer today’s costs to the next generation, which is unfair. Therefore, plans use prefunding so the costs of pension benefits accrued today are paid today by the taxpayers – so funds will be available tomorrow when the pensions are due. Thus, the current generation saves money for its own retirement; the prior generation did this and the future generation will do likewise.

The term “underfunded” means that the plan sponsor has not made sufficient contributions to fund the present and future liabilities of promised benefits. Recent news accounts include such plans as Illinois, New Jersey and California, where the employer did not make the full required contribution, or enjoyed “contribution holidays” by not making any contributions for several years, or increased benefits without funding these benefits.

In Florida, no public plan sponsor failed to make the minimum required contribution.

Plan Funding

Funding for local retirement plans is based on a simple formula, referred to as the **Basic Retirement Funding Equation**:

$$\mathbf{C + I = B + E}$$

Left Side = Right Side

- C = Contributions (employer and employee)
- I = Investment Income
- B = Benefits Paid
- E = Expenses (administrative)

The left side (plan income) must balance with the right side (plan benefits and expenses). On the left side, for example, when the “I” (investment income) decreases because of a downturn in the stock market, the “C” (contributions) increases, thus requiring more in contributions. If the employees’ contribution rate is fixed, then the increase is borne completely by the employer.

Likewise, on the right side, if the promised benefits are increased (enhanced) or a pay raise is approved, the “B” (benefits) increases and the formula is out of balance. That requires additional contributions on the left side to balance the formula.

To make it simpler: Money In must equal Money Out!

The problem with the formula is that in order to figure out exactly how much to contribute, the plan would have to be closed to new members and allowed to operate until all retirees are deceased. At that point, the benefits and expenses actually paid out, and the investment income earned would be known and, using the equation above, the true cost could be determined. Since the plan is ongoing with no intention of closing, an actuary is hired to estimate the true cost of the plan and to determine the systematic contributions needed to meet that cost. With the current defined benefit plan, the costs are prefunded, thus the calculations are more complicated than the simple formula would indicate.

Benefit Calculation

The question raised is, “How are future benefits of employees estimated?” For example, when a new member enrolls in the retirement plan, at that time, the actuary estimates the individual’s pension benefit – making certain assumptions about life expectancy, wage increases, investment returns of the plan, years of life after retirement, inflation, and many other factors. Using these data (based on plan experience studies), the actuary calculates the present value of future benefits the plan will be required to pay to its current participants: those still working who will retire in the future, retirees, and those who have terminated employment but have not yet begun drawing benefits.

Simply put, the actuarial present value is today’s cost of tomorrow’s retirement payout.

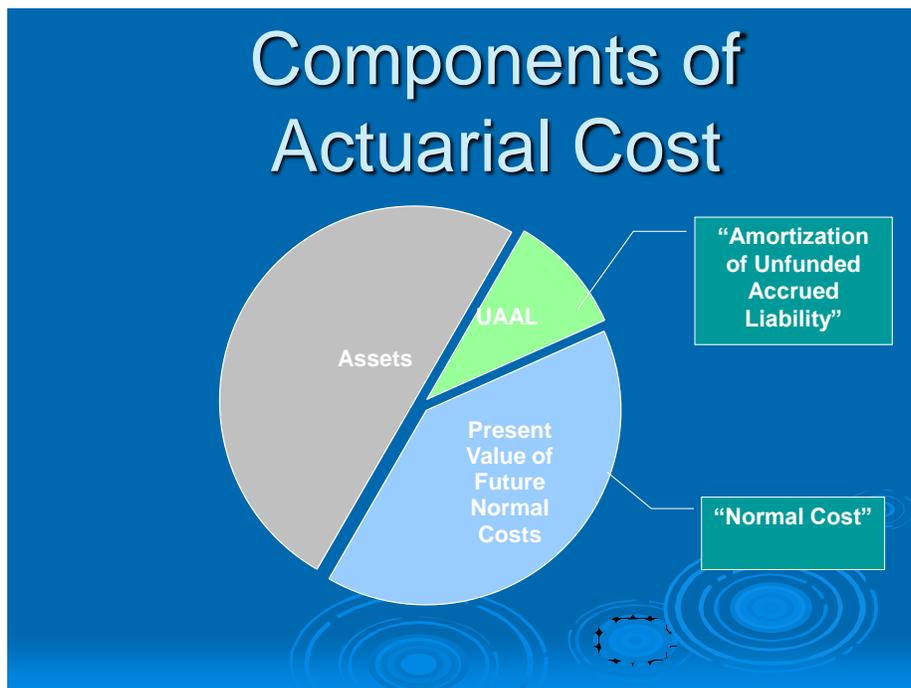
After determining the present value of future benefits for all plan participants, the actuary allocates it to determine the actuarial cost of the retirement plan. This actuarial cost is the difference between the sum of all benefits, refunds, and expenses paid out [*right side of the formula*], and the assets of the plan [*left side of the formula*]. The contribution allocation is broken into two categories: normal cost and accrued liability.

Normal Cost – benefits and expenses that have accrued during the given year and are expected to be accrued annually in the future with no changes to promised benefits.

Accrued Liability – amount of money needed to pay for benefits (earned so far plus benefits not yet earned) based on a member’s service. This amount is amortized to build the necessary assets over time to cover the liabilities.

Most local plans use the entry-age normal cost method to determine normal costs. Each employee has his/her present value of future benefits allocated on a level basis over the service of the individual between entry age and assumed exit age.

The components of actuarial cost (normal costs plus accrued liability) must balance with the plan assets.



Plan Value

Once the actuarial cost of the plan is determined, the market value of the plan's assets is calculated. Market value is the price at which all securities can be sold as of a certain date. It is smoothed over several years (usually five years) to address steep fluctuations in gains or losses, and only a portion of unrealized gains or losses is recognized in a single year.

Now that the plan's assets have been determined and measured, they can be compared with the plan's accrued liability.

- ✓ If the assets equal or exceed the liabilities, the plan is considered to be fully funded.
- ✓ If the assets are less than the accrued liabilities, then the plan has what is called an unfunded accrued liability.

Underfunding does not mean the plan is unable to meet its current obligations. After all, having a mortgage is nothing to be ashamed of – as long as you can afford the payments and make them on schedule.

A plan which is 100% funded still is required to contribute to the normal cost. Future contributions and investment earnings are needed to fund benefit obligations as they build in future years. A pension plan requires contributions both to fund benefits currently being accrued (normal cost) and to eliminate any shortfall between plan assets and accrued liabilities (called unfunded accrued liability).

Unfunded Liability

The unfunded actuarial accrued liability (UAAL) comes about because past assumptions have not been met. Each year, the plan members and sponsor contribute to the normal cost component of the retirement plan. The employer is also responsible for paying down the unfunded actuarial liability, which is amortized usually over a 20-year period. It's like having 20-mini mortgages – each year one is paid off and another is added. These mini-mortgages are based on the plan's gains/losses during the year, actuarial assumption changes based on experience studies, and plan amendments (changes in benefits).

The plan's actuarial report each year describes the calculation for the plan sponsor's contribution costs.

Sample Analysis of City Contribution Requirements

Based on the *Actuarial Report* as determined by the plan’s actuary, the city’s contribution requirements are as follows:

	2010	2009
Entry-Age Normal Cost	\$ 16,876,287	\$ 14,137,059
Amortization of Accrued Liability	\$ 18,334,870	\$ 15,513,308
Expenses	\$ 489,000	\$ 561,000
Interest	<u>\$ 2,190,353</u>	<u>\$ 1,853,593</u>
TOTAL CONTRIBUTION REQUIRED	\$ 37,890,510	\$ 32,064,960
Expected Member Contributions	(\$ 4,933,490)	(\$ 3,697,808)
Expected State Contribution	<u>(\$ 2,708,872)</u>	<u>(\$ 3,000,946)</u>
Net Expected City Contribution	\$ 30,248,148	\$ 25,366,206

The numbers above show that the city is paying down the unfunded liability each year – over the 20-years that these costs are amortized. That amount is the “Amortization of Accrued Liability.” If all assumptions are realized, the amortization payment will cease to exist in 20 years and the minimum required contribution will be just the normal cost. The *Actuarial Report* also shows the amortization schedule of the unfunded liability of the plan.

According to this *Actuarial Report*, the current unfunded liability will be paid down as follows:

<u>Date</u>	<u>Unfunded Liability</u>	<u>Amortization</u>
1/1/2010	\$ 197,362,944	\$ 18,334,870 (see payment above)
1/1/2011	\$ 192,902,750	\$ 18,701,567
1/1/2012	\$ 187,701,774	\$ 19,075,598

1/1/2030	\$ 0	Paid in Full

Most retirement systems saw deterioration in funding levels due to the market correction experienced from 2000-2003 and 2008-2009. This market downturn resulted in increases in contributions by the employer and a decline in the funding assets of the plan. As the market rebounds, the increased value of the assets will positively affect the total assets and reduce the unfunded liability.

The recent upturn in the stock market – in 2010 and as projected for 2011 also will help the plan to recover the losses experienced in 2000-2003 and 2008-2009. For example, most likely, the plan's market value of assets declined in 2009, however, in 2010 the market value gained. These fluctuations are smoothed over 20 years – so that no one year causes wild swings in the city's contribution.

As long as a plan meets the funding needs of the system over the long term, this unfunded actuarial liability will not negatively impact the long term funding progress of the retirement system.

Conclusion

Too many people view the unfunded liability as the lone barometer of the health of a pension system. It is probably the most misunderstood number in the actuary's report. It is important to avoid knee-jerk reactions to the market's volatility. One such reaction is the suggestion of terminating the defined benefit plan and replacing it with defined contribution accounts.

The fact that the retirement plan has an unfunded liability does not mean the plan is **underfunded**. It does not mean that the city has to take drastic and immediate actions to reduce or pay off the unfunded liability. It is being "paid down" in the same way you pay down your home mortgage. Each year the city's contribution includes a payment to pay down the unfunded liability. The health of the plan is not determined by the unfunded actuarial liability. The health of the plan has more to do with the city's ability and willingness to make the minimum required contribution.

Let's not fix something that isn't broken!

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Jose is a professional actuary who has consulted with clients in the public sector since 1980. Jose has a broad range of experience in the design, administration and funding of public retirement plans, proposed legislation analysis, experience studies, asset liability forecasts and actuarial audits.

Brad Heinrich, FSA, EA, President, Foster & Foster, Inc.

Brad is a Principal at Foster & Foster, Actuarial Consultants for public pensions plans, and has over ten years of actuarial pension and postretirement medical plan experience. Brad is one of approximately 1,700 people worldwide who is both a Fellow of the Society of Actuaries and an Enrolled Actuary per ERISA. He is also a member of the Academy of Actuaries.

Chad M. Little, ASA, EA, Partner, Consulting Actuary, Friedman Little Actuaries, LLC.

Chad has specialized in public pension systems since 1994. He has worked on pension plans of all sizes ranging from small local firefighter plans to the Texas Municipal Retirement System. He is known for his creativity (with words, not numbers!) and ability to effectively communicate pension concepts to both trustees and participants.

FPPTA was established in 1984 for the purpose of providing education and information for the Florida public pension systems and protecting defined benefit pension plans through educational seminars and conferences, where distinguished speakers, in an educational environment, focus on issues and subjects of global and national importance as they pertain to trustees and pension boards.

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