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Federal, State and Local Debt and Liabilities, the problem....

A series on what this means to the citizens of West Chester...their livelihood, their families, their retirement and their taxes.

Part 1

The BIG Picture....Debt and unfunded liabilities.

Debts of our state, local and federal governments are identified as bonds, notes and bills that are issued and outstanding. These securities provide the government the ability to borrow money from its citizens and from nations abroad. The government pays interest on this debt by imposing taxes on its citizens.

When you buy a car, or rent an apartment or office building with a long term lease, that obligation is also a debt. Unless you plan to break the lease or contract after several months and renege on your commitments, you are obligated by law to make the monthly payments according to the terms of the contract. These same types of contractual agreements between government and its citizens in the form of promised future benefits are called "Unfunded Liabilities", if no assets are actually set aside. They are either real or a bag of broken promises. The future will tell the truth.

Checking the National Debt clock at <http://usdebtclock.org/index.html> , one will see that the total outstanding federal debt, securities issued by the US Treasury in the form of notes, bonds and bills, recently passed \$13.5 Trillion. This represents 92 % of GDP (Gross Domestic Product). GDP is the monetary valuation of all US citizens' efforts and production from working hard every day, to earn a livelihood and to take care of themselves, their families and charitable inclinations. The total of all goods and services produced in America.

When adding in unfunded liabilities, promises to American citizens in the form of retirement (social security) and health care (Medicare and prescription drugs), the number grows by \$110 Trillion to a total of \$124.5 Trillion , or over eight times larger than all the hard working citizens can produce in a year, GDP.

The state coffers are not in much better shape. In the March 16, 2010 Wall Street Journal, an article titled "States Hope for a Rich Uncle" cited that 17 states had projected budget deficits of 10% or higher. The debt clock shows an additional state debt mounting to \$1.1 Trillion and local debt scaling another \$2.0 Trillion. All this debt needs to be repaid eventually or taxpayers will be relegated to a "foreverness" of paying interest. Do you think interest rates will stay at 2% for long? 4% of \$13.5 Trillion is \$540 Billion, or larger than the projected budget spending on Medicare for 2011 of \$491 Billion.

A critical issue is that the Federal Government, through the Federal Reserve, can print money to keep paying their bills, a short term decision that may relieve the pain, but encourages the disease to grow faster. As presented by Fed Chairman Ben Bernanke and the Federal Reserve, as recently as September 21, 2010 in the Board's prepared statement at the conclusion of the FMOC meeting, the Fed Reserve will do what it takes to avert deflation, thus an openness of "Quantitative Easing" (QEII), printing money. This solves short term deficit problems, but creates new potential long term economic ramifications such as hyper-inflation. State and local municipalities cannot print money. States can only solve their problems the old fashioned way: raising taxes and/or reductions in government spending.

One of the "unfunded liabilities" for state and local governments is the state pensions. And like the Federal Government, their unfunded liabilities only add to the outstanding debt as reported by the states and municipalities. Bloomberg reported on September 15, 2010 that "less than half of the states had pension plans that were funded to the 80% level of future obligations". In other words, they are short of what they should have by 20% or more. The state of Illinois is funded to 50.6%. Some pension actuaries place the 80% funding level as a minimum threshold as viable funding towards future benefits to be paid.

The Kellogg School of Management at Northwestern University posted a review in March 2010, of a study by Joshua Rauh and Robert Novy-Marx, discussing the status of state pension plans. They cited a 5% chance that state pensions will be able to meet their obligations to retirees in 15 years. Reportedly there are \$2.0 Trillion of assets in state plans and \$1.0 Trillion in unfunded liabilities. Rauh and Novy-Marx estimate the unfunded liabilities could be as high as \$3.2 Trillion, "due to government accounting standards... that severely understate their defined-benefit pension liabilities."

The main issue in their research is the assumptions these plans make in how fast the assets will grow to fund the future liabilities. On September 18, 2010, the Wall Street Journal article headlined "Pension Gaps Loom Larger...Funds stick to unrealistic return assumptions." As reported by both the WSJ and Rauh and Novy-Marx, most state plans assume a rate of return of 8-8.5%, [average annualized returns](#). Not bad if you can get it. By doubling the return assumptions, you cut in half the funding requirements. When Rauh and Novy-Marx used rates of returns equivalent to municipal debt interest rates of approximately 4% or 10 year Treasury Notes around 3%, to demonstrate conservative rate of return assumptions, they found the "unfunded liabilities" doubled or tripled.

The same WSJ article showed that the median return for state pension plans over the last five and ten years have been around 4-4.5%. To understand how important those real lower rates are, consider having \$100,000 in your own Individual Retirement Account (IRA), and you plan to retire in ten years. If you plan using an [average, annualized return](#) of 8%, in ten years your IRA would be \$215,892, a gain of \$115,000. If in actuality you earned 4%, your retirement assets would be \$148,024, a gain of \$48,000, and only 41% of the gain under the 8% planning, less than half. That would not be very good for your retirement and a little too late to make up the difference.

If, due to the slow economy, which is projected to grow at 1.5%-2.0% over the next couple of years, your investment grew at only 4% for the first five years, you would need to grow the next five years at 12% to

make up the difference. It makes intuitive sense. But when you are funding assuming an [average annualized rate of return](#) of 8% and you have averaged 4-4.5%, your funding problems more than double or you need to stretch for higher returns with higher associated risk. Not necessarily what you want your employer to do with your retirement assets.

The amount of debt outstanding in this country is mind boggling, both on an absolute basis as well as a relative basis to our GDP. Deficits on a Federal and state level are precariously over 10% of budget. But, unfunded liabilities dwarf the outstanding debt problem and may be understated by a multiplier of 2-3, based upon a simple common sense approach to reasonable rate of return assumptions. You see this is not a problem that can just be covered up and deferred. Eventually everyone will be impacted. Either through higher taxes or even worse, a retirement which was being counted on and is not there.

In Part 2, "How safe is your retirement", we will further examine the unfunded liability issue in regards to state pension plans and the impact the "timing of returns" can have on a plan.

Part 2

Continued.... How safe is your retirement?

There is an additional issue that could make the state pension deficit situation even worse and that is cash flows and the timing of the returns. According to the Bloomberg article cited in Part 1, the US Census Bureau estimated for the last ten years, participant's contributions into their plans increased by 70%, but the payouts of benefits increased by 130%. The Census Bureau further estimates that 14 states pay out benefits in excess of 10% of assets in their plans, obviously unsustainable if you are earning 4%, or even if you make believe you are earning 8%.

The final step in this analysis is also intuitive, but something you may never have seen before. The article has been highlighting [average annualized returns](#) because that is the how the financial world quotes rates of return over a period of time, but never have you seen your IRA grow every year by exactly 8.0% for ten years. Sometimes higher, sometimes lower, by reinvesting the appreciation each year back into your portfolio to compound, it will result in an [average annualized return](#) of 8.0%.

But what happens when the market is down and you take money out. The withdraw is now a higher percentage of the assets than before the portfolio "corrected", so it will take an even higher rate of return to get back to the same value as before. The timing of when you take money out of a portfolio and the corresponding annual rates of return has a direct impact on the investment's portfolio's ability to meet and fund future liabilities (retirement checks).

Take a look at the table below, showing accumulation and distribution phases of an individual retirement account. Group pension plans are somewhat dissimilar as they have new entrants and vesting schedules to add additional layers of calculations, but the broader concept of withdraws in excess of contributions and annual earnings will still spell the same problems.

On the left hand side it shows two columns, each \$100,000 invested for 20 years, both with an average annualized return of 8%. One will notice that the annual returns in the first column are exactly reversed in order compared to the second column. The order of returns is unimportant as you are accumulating assets and both result in the average annualized 8% return.

On the right hand side of the chart, the same two columns and rates of return exist, but now we are in the distribution phase and with drawing annually 5% of the first year total assets in the plan, growing with 3% inflation. Both columns on the right hand side start with the same dollar amount and with draw the same amount each year. One account goes to zero by the 16th year, while the other account continues to grow. The difference is in the timing of the returns. The left column of the withdraw phase has the bad years early on and the other column has good years early on.

Why the Sequence of Returns Matters

The sequence of returns may have less of an impact on the portfolio of a long-term investor who is accumulating assets for retirement. However, *during* retirement, the interplay between an investor's rate of withdrawal and the sequence of returns can have a dramatic impact on a portfolio's overall ability to last.

Factors Affecting Portfolio Results Before and After Retirement

Accumulation Phase

- Average Annualized Returns
- Asset Allocation
- Staying Invested

Age 65

Distribution Phase

- Sequence of Returns
- Product Allocation
- Portfolio Protection

Annual Income = None Starting Value for Portfolio A and Portfolio B = \$100,000					Annual Income = 5% of first-year value adjusted thereafter for inflation Starting Value for Portfolio A and Portfolio B = \$684,848				
Age	Annual Return	Portfolio A Year-End Value	Annual Return	Portfolio B Year-End Value	Age	Annual Return	Portfolio A Year-End Value	Annual Return	Portfolio B Year-End Value
41	-12%	\$87,695	29%	\$129,491	66	-12%	\$566,337	29%	\$852,571
42	-21%	\$69,426	18%	\$152,281	67	-21%	\$413,086	18%	\$967,355
43	-14%	\$59,707	25%	\$189,590	68	-14%	\$318,927	25%	\$1,168,029
44	22%	\$72,984	-6%	\$178,404	69	22%	\$352,432	-6%	\$1,061,698
45	10%	\$80,136	15%	\$204,272	70	10%	\$348,431	15%	\$1,177,105
46	4%	\$83,595	8%	\$221,183	71	4%	\$323,772	8%	\$1,234,855
47	11%	\$92,707	27%	\$281,124	72	11%	\$318,176	27%	\$1,528,614
48	3%	\$95,210	-2%	\$274,939	73	3%	\$284,653	-2%	\$1,452,871
49	-3%	\$92,155	15%	\$315,355	74	-3%	\$232,143	15%	\$1,623,066
50	21%	\$111,507	19%	\$375,272	75	21%	\$236,215	19%	\$1,886,771
51	17%	\$130,129	33%	\$498,737	76	17%	\$229,644	33%	\$2,461,500
52	5%	\$137,026	11%	\$554,097	77	5%	\$194,417	11%	\$2,687,327
53	-10%	\$123,597	-10%	\$499,795	78	-10%	\$126,543	-10%	\$2,375,148
54	11%	\$137,316	5%	\$526,284	79	11%	\$90,304	5%	\$2,450,746
55	33%	\$182,493	17%	\$614,174	80	33%	\$68,219	17%	\$2,808,226
56	19%	\$217,167	21%	\$743,150	81	19%	\$27,833	21%	\$3,344,606
57	15%	\$249,091	-3%	\$719,305	82	15%	\$0	-3%	\$3,182,338
58	-2%	\$243,611	3%	\$738,726	83	-2%	\$0	3%	\$3,211,664
59	27%	\$309,629	11%	\$819,247	84	27%	\$0	11%	\$3,503,440
60	8%	\$335,262	4%	\$854,602	85	8%	\$0	4%	\$3,594,592
61	15%	\$383,875	10%	\$938,354	86	15%	\$0	10%	\$3,885,017
62	-6%	\$361,226	22%	\$1,147,022	87	-6%	\$0	22%	\$4,685,257
63	25%	\$449,727	-14%	\$986,439	88	25%	\$0	-14%	\$3,963,710
64	18%	\$528,878	-21%	\$780,941	89	18%	\$0	-21%	\$3,070,398
65	29%	\$684,848	-12%	\$684,848	90	29%	\$0	-12%	\$2,622,984
	8%	\$684,848	8%	\$684,848		8%	\$0	8%	\$2,622,984

NO DIFFERENCE

BIG DIFFERENCE

► Total income generated by portfolio during retirement = \$718,045

\$1,248,438

The sequence of returns has an average compounded annualized return of 8% over 25 years and year-to-year volatility that is consistent with a portfolio predominantly comprised of stocks. Annual returns have been rounded to the nearest whole number. The accumulation portfolios assume a starting value of \$100,000 at age 40 and no annual withdrawals. The distribution portfolios assume a starting value of either \$100,000 or \$684,848 at age 65 as well as a 5% first-year withdrawal thereafter adjusted for 3% inflation annually. Except where noted, the average annualized return for the 25-year period is 8%. Source: Standard & Poor's.

If the \$1.0 Trillion of unfunded liabilities for state pension plans may be doubled or tripled as projected by Rauh./Novy-Marx due to the higher unrealistic growth assumptions versus past earnings history. We then need to also consider the impact of the timing of the cash flows, with draws and the actual annual returns versus the [average annual rate of return](#). In the above chart, at age 71, in the withdraw column, the value of the asset is \$323,722, under the assumption of negative returns early in the payout phase. In order for the scheduled retirement benefits to be paid out through age 90, the account would need to be increased to \$525,184, assuming a constant 8% return for the balance of the payout years. This is an increase of existing assets by 60%.

Is this where we are today? The state pension funds have been averaging 4-4.5% returns for last ten years, versus 8% projected, withdraws or benefits being paid out are around 10% of assets in the plans. Could the tax payers across the country write a check for an additional 30, 40, 50 or 60% of existing assets to stabilize the retirement plans?

How big of a problem is this? The Stimulus Bill, passed shortly after Pres Obama took office was \$800 Billion, a third of which went to states to help pay the states Medicare commitments for a year or two. With state pension plans currently underfunded by \$1.0 -3.0 Trillion, as evidenced in this article, your understanding of the issue makes it imperative that you share your concerns with friends, family and neighbors to address the problem at hand before our debt implodes upon us.

In Part 3, "Tell us the Truth, the Whole Truth", the Public School Employee Retirement System of Pennsylvania. Brought to our attention at the West Chester School Board meeting in late summer 2010, the information shared brought to light the importance to all taxpayers of future funding requirements as well as the viability of the promised retirement for our teachers and administrators.

Part 3

Continued.....Tell us the Truth, the Whole Truth.

Let's take a look at one example of state retirement plans, the Public School Employees' Retirement Systems of Pennsylvania (PSERS). As presented at the West Chester School Board meeting in late summer, by the school district superintendent, it was explained to the citizens that funding obligations of the school district will be significantly increased over the next two to three years based upon Pa State guidelines to fund the plan. Let's first look at their projections.

As reported in the Public Employee Retirement Commission, regarding House Bill 2497, dated June 15, 2010, the proposed "employer" contributions, average split 55% from the state and 45% from the school district, was projected to increase to 8.22% for the fiscal year ending June 30, 2011, up from 4.79 and 4.78% in years ending 2009 and 2010. The participants, i.e. teachers and school administrators contribute as well with an average contribution rate of 7.34%.

From there, let's see their **projection** for the "employer" contributions: 2012-10.59%, 2013-29.22%, 2014-32.09% and 2015-33.60%. The state did adopt to limit the employer funding for 2010-2011 school year to 5.64% and then it increases for the following years. The question as to "why" reduce funding in the current year when the unfunded liability is so large is not only an obvious one to ask, but also an obvious one to answer: current state and local budgetary deficits.

On June 30, 2009, the PSERS reported in the actuarial valuation of the plan, that the plan was funded to the 79.2% level based up the accrued liabilities and the actuarial valuation of assets. Actuarial valuation of assets is the five-year moving average value and has been used by PSERS for many years, even before the recent downturn. Unfortunately, in a down market, it may not adequately identify the actual magnitude of the problem being faced, as it also underestimates the surplus in an up market.

If your savings account has been going down over the last five years, you would increase your savings account immediately by calculating the five year actuarial valuation of assets. For the PSERS, according to their valuations, in 2000 the actuarial valuation of assets was funded to over 120% of accrued liabilities. Now they are 79.2%. The ten year trend is down.

From the valuation report:

Accrued Liability:	\$75,625,900,000	
Actuarial Value of Assets:	<u>\$59,886,700,000</u>	
Unfunded accrued Liability	\$15,739,200,000	Funded ratio of 79.2%
Market Value of Assets	\$43,100,594,000	Funded Ratio of 57.0%
Unfunded (Real Dollars)	\$32,525,306,000	

The Pension Protection act of 2006, which regulates private defined benefit plans, requires the use of Market Value of Assets. If the PSERS required “employer” funding contributions in two years were based upon the market asset numbers, which are about 25% less than reported actuarial values that would transition to a 25% increase in the amortized portion of the “employer” contribution (i.e. taxpayers). We will be going from a 5% contribution rate this year to a 30-40% rate in two years, if we want to adequately fund the plan. Is it economically feasible?

But wait, these funding projections utilize the [average annualized rate of return](#) of 8%. The states have averaged around 4-5% for last ten years. Do you think that counting on earning 12% for the next ten years is a good financial judgment, or 8% over the next five years? Do you want to plan on 12% returns in your IRA for the next ten years? If PSERS were to lower its assumed average return to 6%, that might increase the “employer” contribution rate by another 25% of the estimated 30-40% rate above. ($8\% - 6\% = 2\%$, $2\% \div 8\% = 25\%$).

The annualized salaries of PSERS participants for 2009 were \$12,524,593,000. Actuarially provided required employer funded contribution was \$1,761,295,000. The actual contribution made was \$503,227,000, or 29% of funding required. The year 2008 was funded at 41% of funding requirements, 2007-39%, 2006-34%, 2005-46%, and 2004-100%. Not a healthy track record of paying bills as they come due. Now we see from the state’s own projections an increase of six-eight times current funding levels to get back on track to meet future liabilities. And this is with questionable assumptions about growth rates and the timing of cash flows completely neglected.

The question of the timing of the annual returns becomes relevant because there are withdraws being made. From the actuarial valuation, we see in 2009 an average annual benefit payout of \$3,996,288,000. Employer contributions were \$0.5 Billion, as noted above. A few negative or below expected return years out of the next 3-5 years, could increase the unfunded liabilities even more dramatically and raise the contribution rates higher yet. This article is not going to venture a guess on the size of those impacts, but the direction of the impact is clear, negative.

The Pennsylvania Municipal Retirement System (PMRS), similar to PSERS but for non-teachers, did look to review the effects of the timing of each of the annual rates of return, over a projected 19 year period and to their credit, based it upon a 6% [average annualized rate of return](#). You will see on page 10 of their actuarial valuation as of January 1, 2009, produced March 2010, that they assumed four out of the first five years returns were over 10%, or what might be called “front end loading”. You know from the analogy above in Part 2, that this will understate the funding requirements.

In the private sector, people with 401(k)’s, SEP’s, IRA’s, 403b”s, etc., would not look at their retirement today based upon an average value of the account over the last five years, or assume rates of return of 8% or higher over the next ten years as prudent expectations. Why? Because they understand the necessity to recognize their position and address it head on. Should we not expect the same of our elected officials?

The follow up question is always, “What do we do next, to remedy the problem?” The purpose of this article is the first step: **Recognize the Problem**. If not, either school property taxes will “*unexpectedly*” increase dramatically, or more unfortunately, our teachers of 20, 30, or 40 years of service will be left with reduced or no pensions. Will their constitutionally protected benefits be a stronger position than the citizen taxpayers simply running out of money to fund the plan under the weight of Federal, State and Local debt and taxes and finally saying, **NO MORE ?**

There are many alternatives solutions; one is to follow the private sector into more defined contribution plans where the employee has greater responsibility for their own retirement. Others are often harder and more difficult, such as reduced benefits, higher taxes, fewer teachers and administrators, or 12 month school years with rotating student attendance. It is recommended you visit the Commonwealth Foundation at www.PublicPensionReform.com to see the objective solutions they present in addressing this pressing issue.

We have just begun to discuss and address the “Mountains of Debt” facing our country and the world as a whole. **Recognize the Problem**, only then we can work together on the solutions.

Ernest Chisena ©

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Stay tuned for Part 4.