January, 2010

Understanding New Mexico's Unfunded Retiree Liabilities

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Executive Summary

New Mexico's defined benefit retirement system is massively underfunded. The pension system reports an unfunded liability of $4.6 billion; however, new analysis finds that the pension system is underfunded by at least $7.5 billion and may be as high as $22.9 billion—or three times greater than the state's general obligation bond debt. The state's Other Post Employment Benefits (OPEB) system, which includes health insurance, is underfunded by at least $2.9 billion.

Additionally, New Mexico's state government, in FY 2008, was required to pay $948 million in contributions to the state's pension and OPEB system—based on the lower unfunded liability estimate. Yet, the political will to meet even the very minimum obligation has been waning with the state's FY 2008 contribution of only $663 million—leaving a shortfall of $285 million.

If the state were to raise taxes to pay for this shortfall, the top individual income rate would have to be increased to 6.05 percent from 4.9 percent. Such a large tax rate increase would yield a permanent loss to New Mexico's economy of $25 million per year, every year. In present value terms, the total deadweight loss to New Mexico's economy is a staggering $849 million—the equivalent of burning all the tax collections from the corporate income tax ($403 million), the motor fuels tax ($250 million) and motor vehicle licenses ($179 million). Clearly raising taxes is not an option.

Also keep in mind that the annual state pension and OPEB contributions used in the deadweight loss calculations are based on the reported pension and OPEB unfunded liabilities. Since the liabilities (and annual contributions) are most assuredly higher than that, the corresponding deadweight losses would also be much higher.

In the end, only three options are available to policy-makers to solve New Mexico's pension and OPEB crisis: 1) Raise taxes to pay for the unfunded liability, 2) Cut other state government spending to pay for the unfunded liability or 3) Reduce pension and OPEB benefits to reduce the liability. Given the severe negative economic consequences of higher taxes, the best course of action is some combination of options 2 and 3 which will be discussed in more detail in the third installment of this series.

Understanding the Unfunded Retiree Liability

New Mexico's pension system consists of five separate retirement systems—the Educational Employee Retirement System (EERS), the Public Employees Retirement System (PERS), the Judicial Retirement System (JRS), the Magistrate Retirement System (MRS) and the Volunteer Firefighters Retirement System (VFRS).

This study focuses on the EERS and PERS since they constitute the vast majority of New Mexico's pension system and will hereafter be referred to as the "New Mexico pension system."

Additionally, there is the Retiree Health Care Authority (RHCA) that deals with Other Post Employment Benefits (OPEB) and will hereafter be referred to as the "New Mexico OPEB system."

Table 1
Funded Ratios of New Mexico's Pension System
Fiscal Years 1999 to 2008
in Billions of Dollars

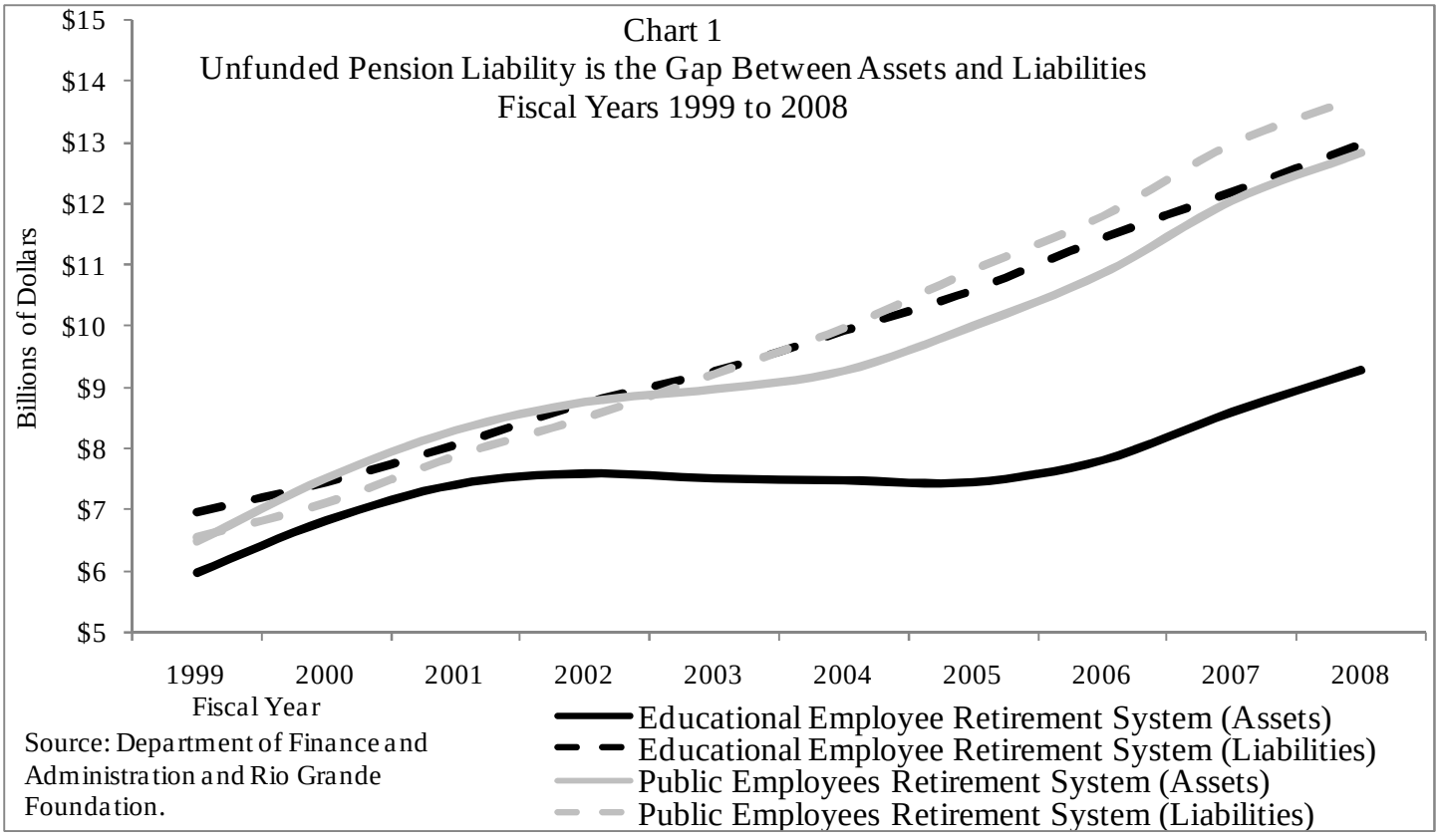
Actuarial Valuation Date as of June 30	Educational Employee Retirement System (EERS)				Public Employees Retirement System (PERS)			
	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio (AVA/AAL)	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio (AVA/AAL)
1999	$5.989	$6.972	-$0.983	85.9%	$6.494	$6.555	-$0.060	99.1%
2000	$6.836	$7.461	-$0.625	91.6%	$7.527	$7.119	$0.408	105.7%
2001	$7.418	$8.070	-$0.652	91.9%	$8.308	$7.883	$0.425	105.4%
2002	$7.595	$8.748	-$1.153	86.8%	$8.769	$8.506	$0.263	103.1%
2003	$7.518	$9.267	-$1.748	81.1%	$8.977	$9.224	-$0.247	97.3%
2004	$7.488	$9.927	-$2.439	75.4%	$9.276	$9.974	-$0.698	93.0%
2005	$7.458	$10.592	-$3.134	70.4%	$10.009	$10.921	-$0.912	91.6%
2006	$7.814	$11.436	-$3.622	68.3%	$10.864	$11.801	-$0.937	92.1%
2007	$8.591	$12.190	-$3.599	70.5%	$12.049	$12.982	-$0.933	92.8%
2008	$9.273	$12.967	-$3.694	71.5%	$12.836	$13.762	-$0.926	93.3%

Source: Department of Finance and Administration and Rio Grande Foundation.

The health of New Mexico's pension and OPEB system is based on two elements—assets held versus liabilities accrued:

Assets: The market value of stocks, bonds and other investments that are held by the pension system. Each year assets grow in one of two ways. First, the value of the assets change and, second, the New Mexico state government pays an annual contribution.

Chart 1
Unfunded Pension Liability is the Gap Between Assets and Liabilities
Fiscal Years 1999 to 2008



Source: Department of Finance and Administration and Rio Grande Foundation.

Liabilities: The present value of pension benefits to be paid out to current and future retirees. Each year liabilities grow based on a number of assumptions such as expected salary increases, mortality, turnover and other factors.

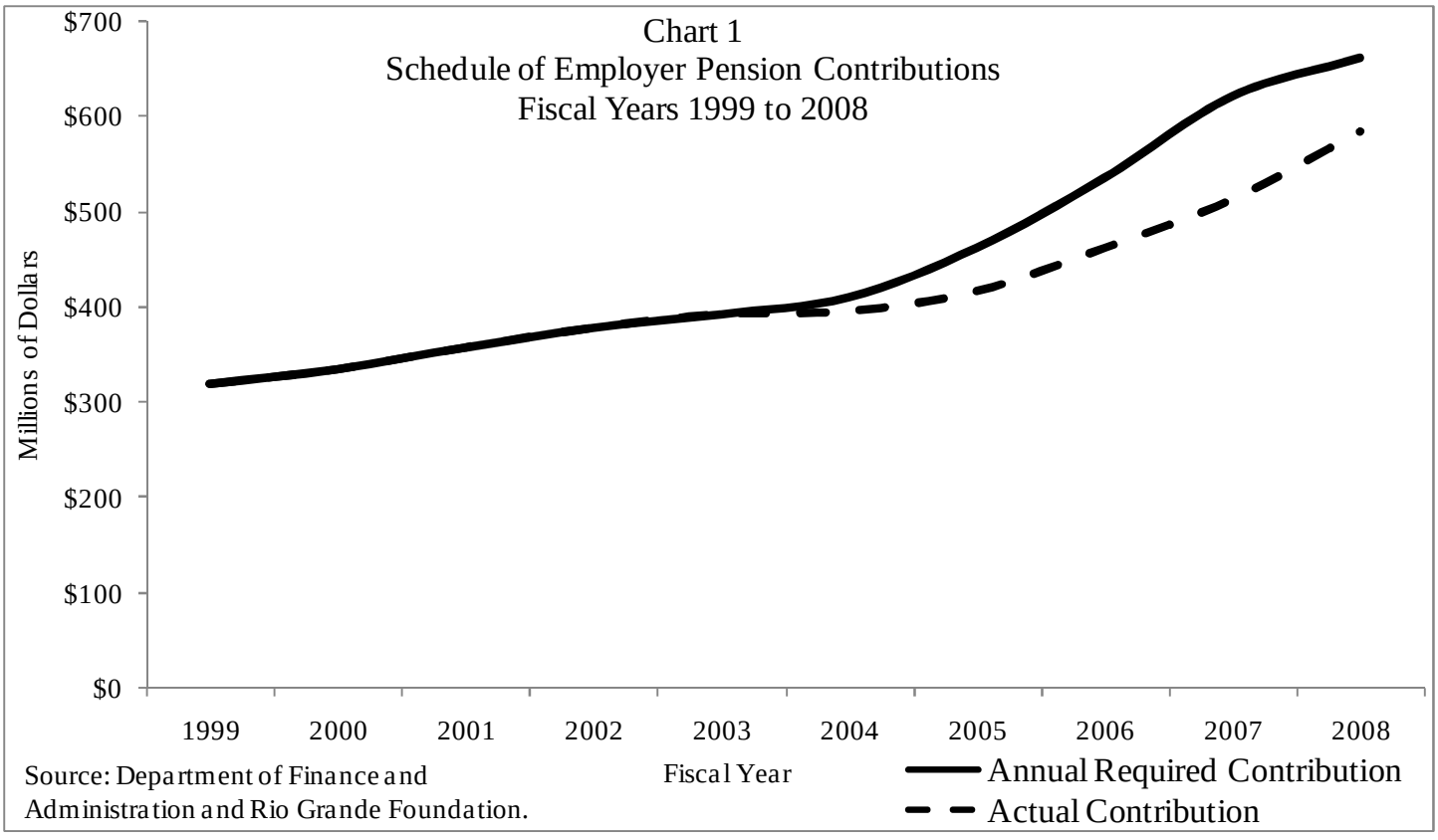
For the pension and OPEB system to be considered "fully funded," assets must equal liabilities. Unfortunately, the pension and OPEB system is far from being fully funded and is currently running a large deficit called the unfunded pension liability. For example, in FY 2008, the EERS system had assets worth an estimated $9.3 billion while liabilities are estimated to be $13 billion. This leaves an unfunded pension liability (liabilities minus assets) of $3.7 billion.

Table 2
Schedule of Employer Pension Contributions
Fiscal Years 1999 to 2008
in Millions of Dollars

Actuarial Valuation Date as of June 30	Educational Employee Retirement System (EERS)			Public Employees Retirement System (PERS)		
	Annual Required Contribution	Actual Contribution	Difference	Annual Required Contribution	Actual Contribution	Difference
1999	$145.5	$145.5	$0.0	$174.3	$174.3	$0.0
2000	$153.3	$153.3	$0.0	$182.0	$182.0	$0.0
2001	$161.5	$161.5	$0.0	$196.5	$196.5	$0.0
2002	$173.9	$173.9	$0.0	$204.7	$204.7	$0.0
2003	$179.1	$179.1	$0.0	$213.7	$213.7	$0.0
2004	$203.9	$189.3	$14.7	$206.8	$206.8	$0.0
2005	$243.2	$197.8	$45.5	$219.2	$219.2	$0.0
2006	$300.0	$226.5	$73.5	$235.9	$235.9	$0.0
2007	$364.1	$256.0	$108.1	$257.1	$257.1	$0.0
2008	$368.2	$290.9	$77.3	$293.2	$293.2	$0.0
Total	$2,292.8	$1,973.6	$319.1	$2,183.4	$2,183.4	$0.0

Source: Department of Finance and Administration and Rio Grande Foundation.

A common way to show the unfunded pension liability is the "funded ratio" which is assets divided by liabilities. Table 1 and chart 1 shows the funded ratio for the pension system while Table 3 shows the funded ratio for the OPEB system. The funded ratio for the pension system in FY 2008 was 71.5 percent for EERS and 93.3 percent for PERS. More concerning than the ratios themselves is that the ratios for both systems are down considerably from their highs set in the early 2000's.



More disturbingly, as shown in Table 3, the OPEB funded ratio in FY 2008 was a mere 5.5 percent. The state has set aside only $171 million while facing liabilities of $2.9 billion. However, liabilities were much higher in FY 2006 at $4.1 billion. Approximately $844 million of this decrease was due to increased retiree self-pay rates—more on this change in the third installment of this series.

Table 3
New Mexico's Unfunded Retiree Healthcare Liability
Fiscal Years 2006, 2007 and 2008
in Billions of Dollars

Actuarial Valuation Date as of June 30	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio (AVA/ AAL)
2006	$0.155	$4.264	-$4.110	3.6%
2007	N.A.	N.A.	N.A.	N.A.
2008	$0.171	$3.117	-$2.946	5.5%

Source: Department of Finance and Administration and Rio Grande Foundation.

In order to make up the unfunded pension liability, the state government's contribution to the pension and OPEB system will have to be larger. As shown in Chart 2 and Table 2, the annual state contribution to the state retirement system was $661 million in FY 2008. As shown in Table 4, the annual state contribution to the state OPEB system was $287 million. To put this into perspective, the FY 2008 state pension and OPEB contribution combined ($948 million) would consume nearly 80 percent of individual income tax collections or nearly 50 percent of sales tax collections.[1]

However, although the required state pension and OPEB contribution is $948 million in FY 2008, the state actually contributed $663 million which left a funding shortfall of $285 million. At some point, this short-fall will have to be paid, with interest, or benefits reduced. Otherwise, the unfunded pension and OPEB liability will grow ever higher. As this study will argue later, spending reductions and/or pension/OPEB reform is the best course of action.

Official Pension and OPEB Liabilities are Dramatically Underestimated

Complicating matters; however, is new evidence that official pension and OPEB liabilities are being dramatically underestimated based on current actuarial methods. The problem revolves around the "discount rate" or "interest rate" used. For example, a 5 percent interest rate means that a $100 today grows to $105 a year from now ($100 time 5 percent) while a 5 percent discount rate means that $105 a year from now is worth $100 today. In effect, the discount rate is the opposite of the interest rate.

In a new study, economists Robert Novy-Marx and Joshua Rauh found that the median discount rate was 8 percent which, conversely, means that these pension systems anticipate earning 8 percent annually.[2] Both EERS and PERS use an 8 percent discount rate. For FY 2008, the authors recalculate state pension liabilities both nationally and by state using more realistic, lower discount rates.

Nationally, the authors find that the total reported state pension liability for 116 of the largest pension plans was $1.039 trillion. However, using more realistic, lower discount rates yields estimates for pension underfunding ranging from $1.31 trillion to $3.23 trillion.

New Mexico's $4.6 billion unfunded pension liability increases to somewhere in the range of $7.5 billion to $22.9 billion. In comparison, they

Table 4
Schedule of Employer Retiree Health Care Contributions
Fiscal Years 2006, 2007 and 2008
in Billions of Dollars

Actuarial Valuation Date as of June 30	Annual Required Contribution	Actual Contri-bution (Employer and Employees)	Difference
2006	$383.2	$70.2	$313.0
2007	$275.5	$71.2	$204.3
2008	$286.5	$78.4	$208.1

Source: Department of Finance and Administration and Rio Grande Foundation.

found that New Mexico's general obligation (GO) debt totaled $7.3 billion. Therefore, New Mexico's unfunded pension liability is up to three times larger than traditional GO debt.

More disturbingly, the maximum pension liability ($22.9 billion) is 59.8 percent of Gross Domestic Product ($75.2 billion) which is the third highest percentage in the country.

Unfortunately, the authors do not examine the state of unfunded OPEB liabilities. However, the adjustment to New Mexico's unfunded OPEB liability would not be as extreme as for the unfunded pension liability because the assumed discount rate is already a much lower 5 percent.

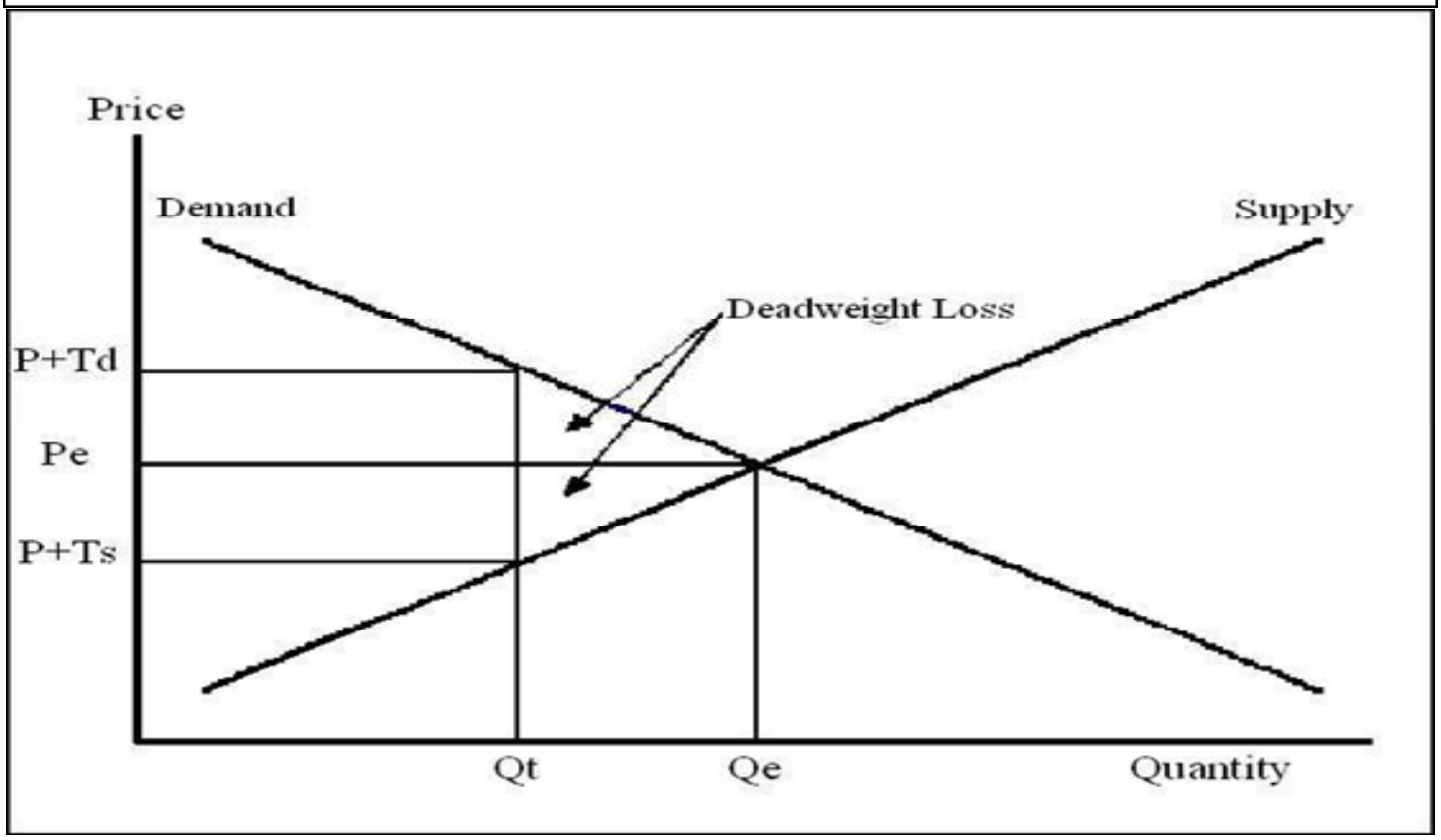
What is Deadweight Loss?

With New Mexico's state government facing daunting unfunded pension and OPEB liabilities, the political temptation would be to raise taxes to pay for the short-fall. This would only compound the economic problems posed by these liabilities by weakening New Mexico's economy. Higher taxes mean higher "deadweight losses" on the economy.

It is well established that people respond to tax incentives and disincentives. For example, they may buy a larger house than they otherwise would because they can deduct the mortgage interest from their federal income taxes. Since the behavior is tax-induced, it harms the economy; if not for the tax break, the taxpayer would have been financially led to a different use of that money.

"Deadweight loss" is a term used by economists to describe economic activity forgone by consumers and producers because of the higher relative price of goods as a result of the tax. Taxpayers may respond to the proposed higher tax rates by reducing their work effort, lowering their consumption, or even leaving the state

Chart 3
Graphical Depiction of Deadweight Loss



in order to avoid the higher tax bill. In other words, the very process of transferring resources from the private to the public sector results in a permanent loss of current and future economic output.

Chart 1 graphically shows how economists are able to estimate deadweight losses where Quantity (Qe) and Price (Pe) show the market equilibrium. The addition of a tax has the same effect as an artificial price increase. The new price point of intersection with the Demand (P+Td) and Supply (P+Ts) curves is at Quantity (Qt). The rectangle formed by the new intersection is the revenue gained by the tax.

The resulting triangle represents the deadweight loss—the value of trade that would have occurred without the tax, but is now forgone because of the tax. Deadweight loss can be estimated by calculating the area of the triangle.

However, estimating the deadweight loss is subject to the degree to which taxpayers change their behavior. If, in fact, taxpayers buy significantly more expensive homes because the mortgage interest is deductible, then the deadweight loss is large. Economists refer to this as the "tax elasticity" (TE). The example given above is an example of "high tax elasticity." Graphically, in Chart 1, TE is shown by the steepness and curvature of the supply and demand curves.

Based on this standard economic methodology, Harvard economist Martin Feldstein pioneered the empirical estimations of deadweight loss. In Feldstein's own words:

> "The appropriate size and role of government depend on the deadweight burden caused by incremental transfers of funds from the private sector. The magnitude of that burden depends on the increases in tax rates required to raise incremental revenue and on the deadweight loss that results from higher tax rates … recent econometric work implies that the deadweight burden caused by incremental taxation (the marginal excess burden) may exceed one dollar per one dollar of revenue raised, making the cost of incremental government spending more than two dollars for each dollar of government spending."[3]

Table 5
Deadweight Loss Estimate of Higher Personal Income Tax to Fully Fund Pension and OPEB

	FY 2008 (in Millions of Dollars)
Higher Personal Income Tax to Fully Fund Pension and OPEB	$285
Deadweight Loss:	
Annual:	$25
Present Value:	$849

Source: Rio Grande Foundation.

In two exhaustive studies, Feldstein finds, based on actual taxpayer behavior derived from IRS data, that the TE is 1.28.[4] Therefore, a 1 percent change in marginal tax rates yields a 1.28 percent change in taxable income.

As shown in Table 5, in order to fully pay for the pension and OPEB annual contribution, New Mexico's individual income tax would have to be increased by $285 million. This would require an increase in the top individual income tax rate to 6.05 percent from 4.9 percent.[5] Such a large rate increase would yield a permanent loss to New Mexico's economy of $25 million per year, every year.

In present value terms, the total deadweight loss to New Mexico's economy is a staggering $849 million—the equivalent of burning all the tax collections from the corporate income tax ($403 million), the motor fuels tax ($250 million) and motor vehicle licenses ($179 million).[6] In effect, such a large tax hike creates a hole in New Mexico's economy; if this deadweight loss had never occurred, private companies with streams of output

into perpetuity would have filled this hole. Instead, we're left staring into an empty hole.

Also keep in mind that the annual state pension and OPEB contributions used in the deadweight loss calculations are based on the reported pension and OPEB unfunded liabilities. Since the liabilities (and annual contributions) are most assuredly higher than that, the corresponding deadweight losses would also be much higher.

Higher Taxes or Lower Spending—that is the Question . . .

Quantifying deadweight losses shows the magnitude of the negative economic impact of taxes on the economy and strongly suggests that reducing government spending is the better option relative to increases in taxes. Recent economic studies, at the international, national and state-level, further support this point.

First, Harvard economists Alberto Alesina and Silvia Ardagna examine the economic effects of fiscal policy in countries that constitute the Organization for Economic Cooperation and Development from 1970 to 2007. They find that:

> "As for fiscal adjustments those based upon spending cuts and no tax increases are more likely to reduce deficits and debt over GDP ratios than those based on tax increases. In addition, adjustments on the spending side rather than on the tax side are less likely to create recessions."[7]

Second, UC Berkeley economist David Romer and Christina Romer (now Chair of the Council of Economic Advisors to President Obama), examine the economic effects of U.S. fiscal policy since 1947. They find that:

> "The resulting estimates indicate that tax increases are highly contractionary. The effects are strongly significant, highly robust, and much larger than those obtained using broader measures of tax changes. The large effect stems in considerable part from a powerful negative effect of tax increase on investment."[8]

Finally, economists Stephen Brown, Kathy Hayes and Lori Taylor examine the economic effects of fiscal policy of U.S. states. They find that:

> "If anything, most public services do not appear to justify the taxes needed to finance them . . . this finding would seem to imply that other state and local public capital has been increased to the point of negative returns, perhaps because a growing stock of other public capital is indicative of an increasingly intrusive government."[9]

Conclusion

In the end, only three options are available to policy-makers to solve New Mexico's pension and OPEB crisis: 1) Raise taxes to pay for the unfunded liability, 2) Cut other state government spending to pay for the unfunded liability or 3) Reduce pension and OPEB benefits to reduce the liability. Given the severe negative economic consequences of higher taxes, the best course of action is some combination of options 2 and 3 which will be discussed in more detail in the third installment of this series.

Notes and Sources:

[1] Tax collection data from the U.S. Department of Commerce's Census Bureau. http://www.census.gov/govs/statetax/index.html

[2] Novy-Marx, Robert and Rauh, Joshua D., Public Pension Promises: How Big are They and What are They Worth? (July 10, 2009). Available at SSRN: http://ssrn.com/abstract=1352608

[3] Feldstein, Martin, "How Big Should Government Be?" National Tax Journal, Vol. 50, No. 2 (June 1997), pp. 197-213.

[4] Feldstein, Martin, "The Effect of Marginal Tax Rates on Taxable Income: A Panel Study of the 1986 Tax Reform Act," NBER Working Paper No. 4496, October 1993 and Feldstein, Martin, "Tax Avoidance and the Deadweight Loss of the Income Tax," NBER Working Paper No. 5055, March 1995. The 1.28 TE is based on the median value estimates by Feldstein.

[5] New Mexico's individual income tax system is very close to a flat rate system with the top tax bracket starting at only $16,000 in taxable income. As such, for simplicity, this analysis assumes a flat 4.9 percent marginal tax rates in its calculations. This results in a minor over-estimate of the deadweight loss.

[6] Based on a 3 percent discount rate.

[7] Alesina, Alberto and Ardagna, Silvia, "Large Changes in Fiscal Policy: Taxes versus Spending," NBER Working Paper No. 15438, October 2009. An earlier version of the study can be found here: http://www.economics.harvard.edu/faculty/alesina/files/Large%2Bchanges%2Bin%2Bfiscal%2Bpolicy_October_2009.pdf

[8] Romer, Christina D. and Romer, David H., "The Macroeconomic Effect of Tax Changes: Estimate Based on a New Measure of Fiscal Shocks," NBER Working Paper No. 13264, July 2007. An earlier version of the study can be found here: http://www.crei.cat/activities/crei_seminar/06-07/romer.pdf

[9] Brown, Stephen P.A., Hayes, Kathy J., and Taylor, Lori L., "State and Local Policy, Factor Markets, and Regional Growth," Review of Regional Studies, Vol. 33, No. 1, 2004, pp. 40-60. An earlier version of the study can be found here: http://www.dallasfed.org/research/papers/2002/wp0202.pdf