



*Celebrating 20 years of promoting liberty*

The Alabama Policy Institute (API) is an independent, non-profit research and education organization that is issue-centered and solution-oriented. We provide in-depth research and analysis of Alabama's public policy issues to impact policy decisions and deepen Alabama citizens' understanding of and appreciation for sound economic, social and governing principles.

Since 1989, API has been on the front lines of critical public debates, helping Alabama citizens, lawmakers and business leaders better understand and apply principles that maximize individual freedom, limit government interference and encourage personal responsibility. The Alabama Policy Institute is the largest free-market, solution-based policy research center in Alabama.

## **The Looming Crisis in State and Local Government Employee Compensation and Pensions**

**By J. Scott Moody and Wendy P. Warcholik, Ph.D.**

Copyright 2011 by the Alabama Policy Institute, Birmingham, Alabama

Permission to reprint in whole or in part is hereby granted, provided that the Alabama Policy Institute and the author are properly cited.

For additional copies, please contact:  
Alabama Policy Institute  
402 Office Park Drive  
Suite 300  
Birmingham, AL 35223  
205.870.9900  
[www.alabamapolicy.org](http://www.alabamapolicy.org)

# **The Looming Crisis in State and Local Government Employee Compensation and Pensions**

**By J. Scott Moody and Wendy P. Warcholik, Ph.D.**

## **Executive Summary**

Alabama's state and local government workforce is imposing an enormous burden on taxpayers. First, policymakers should be concerned that Alabama's state and local governments employ 20.86 people for every 100 employed in the private sector—the 11<sup>th</sup> highest ratio in the country. If this ratio was brought down to the national average (17.67), state and local governments would save up to \$2.4 billion annually.

Second, Alabama's state and local government workers earn significantly more than the average private sector worker. In particular, benefits are 64.3 percent higher than the private sector, the 12<sup>th</sup> highest ratio in the country. If Alabama's compensation levels were lowered to the national average, another \$945 million could be saved each year.

Both the employment and compensation problems are significant contributing factors to Alabama's unfunded pension and retiree health care liability. According to official state estimates, Alabama's pension system in FY 2009 was underfunded by \$10.9 billion while the retiree health care system is underfunded by another \$15.3 billion.

As a result of these liabilities, the amount of money needed to pay for Alabama's pension and retiree health care system (called Other Post Employment Benefits, or OPEB) is larger than it would be otherwise. In fact, the required (not actual) FY 2009 state pension and retiree health care contribution combined (\$2.5 billion) would have consumed almost all of the state's individual income tax (\$2.7 billion).

Because contributions to Alabama's OPEB are lower than needed, one estimate suggests that the state's pension system is underfunded by \$47.8 billion—nearly five times official estimates—and will run out of assets by 2023.

If these obligations are to be met, the existing system must be reformed using five policy objectives:

- 1—Fix the Public Sector Over-Employment Problem
- 2—Transform the Defined Benefit System into a Defined Contribution System
- 3—Increase Retiree Contributions
- 4—Do Not Raise Taxes
- 5—Do Not Issue Pension Obligation Bonds

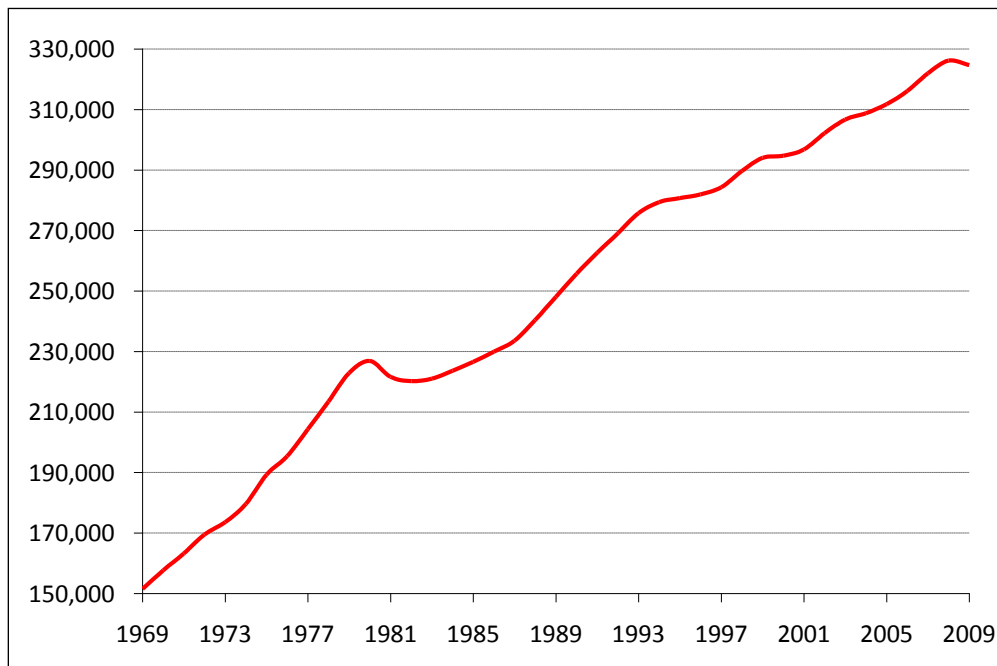
## Section One: State and Local Government Employment and Compensation

Policymakers need ways to tell whether any state—including Alabama—has too many government employees or if they are paid too much in relation to their productivity. In this study, employment and compensation ratios of government employees are compared over time and across states.

### The Size of Alabama’s State and Local Government Workforce

Since 1969, the number of government employees in Alabama has increased by 114 percent (see Chart 1). In 2009, Alabama’s state and local governments employed 324,669 full- and part-time people, according to the U.S. Department of Commerce’s Bureau of Economic Analysis.<sup>1</sup> Of these, 106,014 were state employees and 218,655 were local employees. The total cost of wages, salaries, and supplements (including pensions and insurance) to employ Alabama’s public workforce in 2009 was \$16.557 billion, or 15.5 percent of all earnings in Alabama.

**Chart 1**  
**Number of State and Local Government Jobs in Alabama: 1969-2009<sup>2</sup>**



As Chart 2 and Table A-1 in the appendix show, the state and local governments of the United States in 2009 had an employment ratio of 17.67; that is, state and local governments employed 17.67 people for every 100 people employed by the private sector. In Alabama, the

<sup>1</sup> See Note 5 in Methodology.

<sup>2</sup> *Ibid.*

employment ratio was 20.86, 18 percent higher than the national average.<sup>3</sup> Chart 2 shows that Alabama’s ratio is currently the highest since 1969 (the first year of data available).

**Chart 2**  
**Number of State and Local Government Jobs per 100 Private Sector Jobs: 1969-2009<sup>4</sup>**

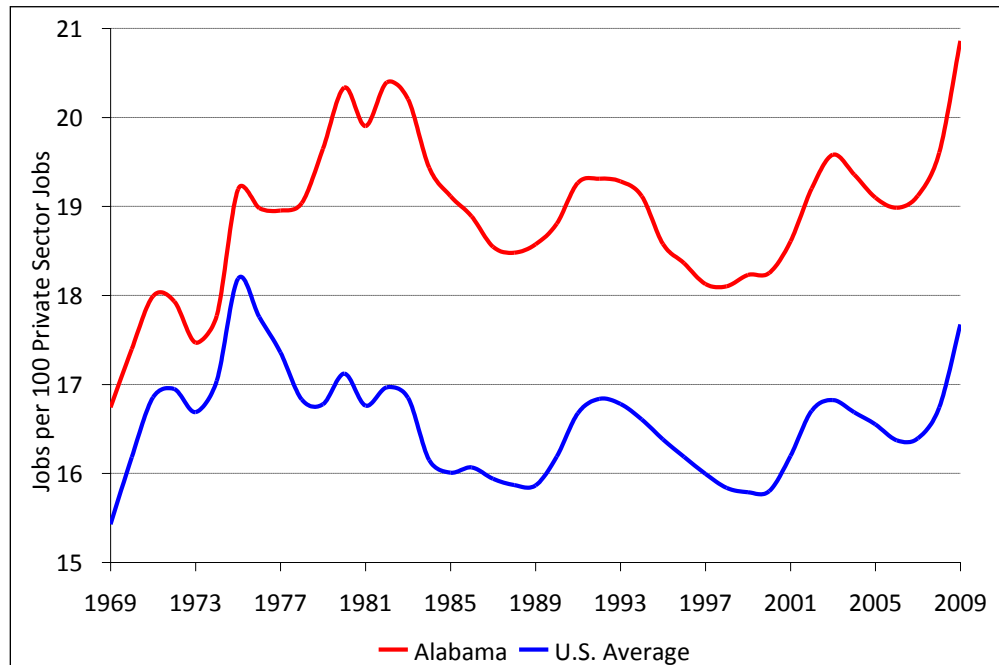


Table A-1 also shows that Alabama had the 11<sup>th</sup> highest state and local government employment ratio in the country, up from 23<sup>rd</sup> place in 1970. Alabama’s ratio is also higher than Florida (15.22; 46<sup>th</sup>), Tennessee (16.78; 36<sup>th</sup>), and Georgia (18.2; 26<sup>th</sup>). Only Mississippi (25.62; 4<sup>th</sup>) has a higher ranking. While there is nothing magical about the national average, knowing that Alabama’s employment ratio is considerably higher suggests it is using its workforce less efficiently than other states.

#### State and Local Government Compensation Ratios

According to the U.S. Department of Commerce’s Bureau of Economic Analysis, in 2009 state and local government compensation in Alabama was \$50,999 per job<sup>5</sup> while private sector compensation was \$45,998 per job.<sup>6</sup> As a result, Alabama’s “compensation ratio”—the amount paid by public sector jobs divided by the amount paid by jobs in the private sector—was 10.9

<sup>3</sup> See Note 6 in Methodology.

<sup>4</sup> *Ibid.*

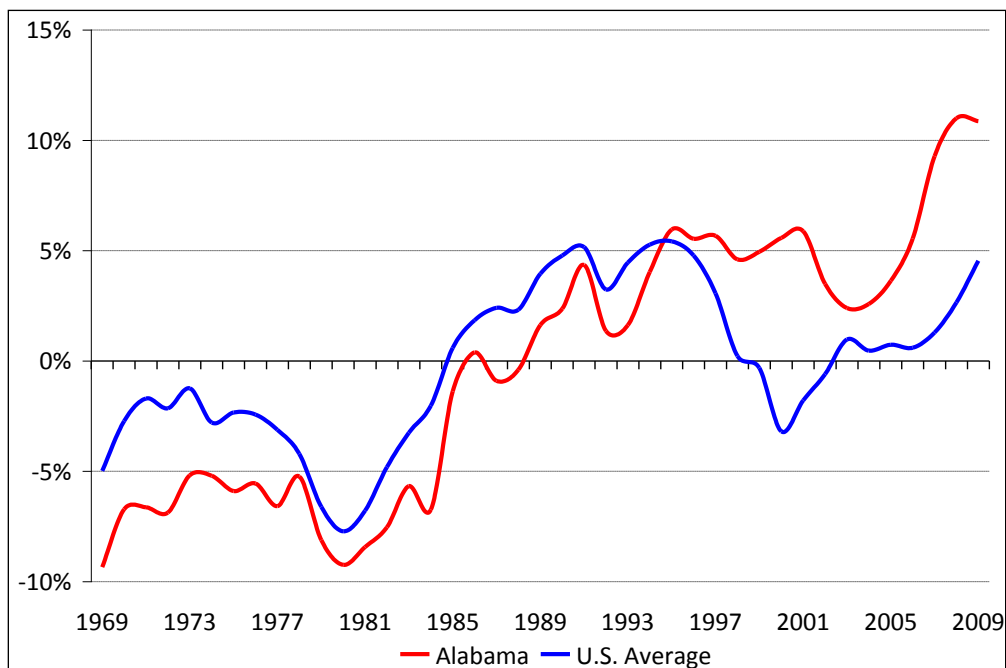
<sup>5</sup> See Note 11 in Methodology.

<sup>6</sup> See Note 2 in Methodology.

percent higher than those in the private sector. The state and local government's compensation has been higher than that of the private sector since 1989 (see Chart 3).<sup>7</sup>

Compared to the national compensation ratio average of 4.5 percent, Alabama's ratio is 139 percent larger, making it the 17<sup>th</sup> highest in the nation. Regionally, Alabama had the third highest compensation ratio behind Florida (18.3 percent; 5<sup>th</sup>) and Mississippi (11.3 percent; 13<sup>th</sup>). Georgia (-7.2 percent; 50<sup>th</sup>) and Tennessee (-1.6 percent; 42<sup>nd</sup>) ranked lower (see Table A-2 in the appendix).

**Chart 3**  
**State and Local Government Compensation as a Percent Above or Below Private Sector Compensation per Job: 1969-2009<sup>8</sup>**



Additionally, compensation is comprised of two components: the wage or salary paid to an employee for services rendered; and benefits, such as health insurance and retirement, which are paid in addition to a wage or salary. Both components can be used to create their own ratios.

#### Wage and Salary Ratios

The wage and salary ratio is derived by dividing state and local government wages and salaries per job by private sector wages and salaries per job. According to the U.S. Department of Commerce's Bureau of Economic Analysis, in 2009 state and local government wages and

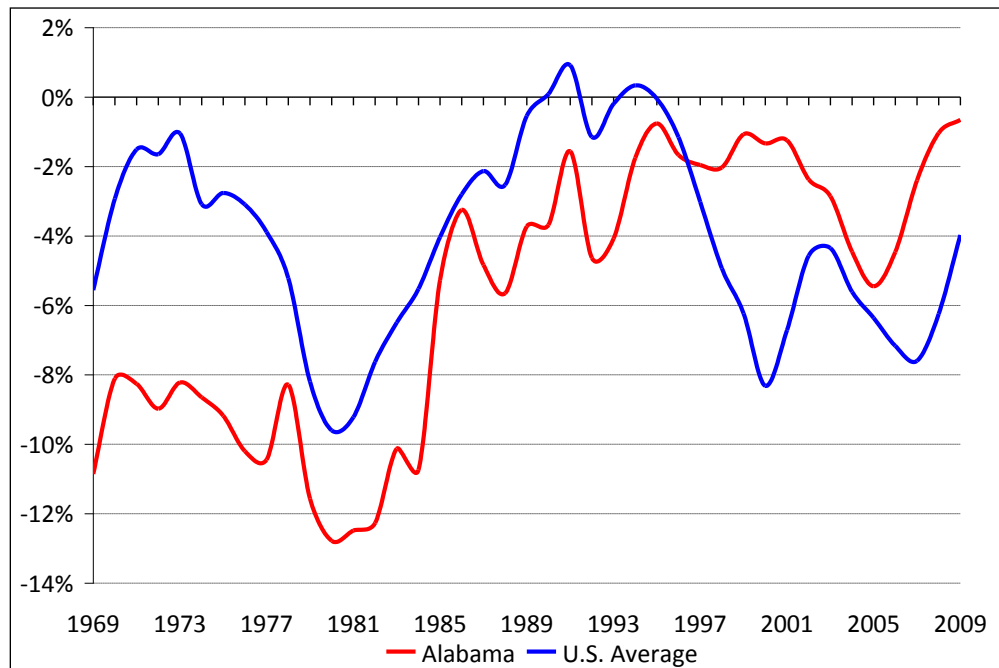
<sup>7</sup> See Note 7 in Methodology.

<sup>8</sup> *Ibid.*

salaries were \$37,591 per job while private sector wages and salaries were \$37,838 per job.<sup>9</sup> Thus, state and local government wages and salaries were 0.7 percent lower than private sector wages and salaries. Nationally, the wage and salary ratio in 2009 was -4 percent.<sup>10</sup>

Chart 4 and Table A-3 in the appendix show changes in the wage and salary ratio since 1969 and by state. Since 1969, Alabama's state and local government wage and salary ratios have been below those of the private sector. In 2009, Alabama's state and local government wage and salary ratio ranked as the 23<sup>rd</sup> highest in the country. Regionally, Alabama had the second highest ratio behind Florida (8.8 percent; 4<sup>th</sup>). Other neighboring states are ranked lower: Georgia (-14.4 percent; 48<sup>th</sup>), Mississippi (-0.9 percent; 24<sup>th</sup>), and Tennessee (-10.8 percent; 43<sup>rd</sup>).<sup>11</sup>

**Chart 4**  
**State and Local Government Wages & Salaries as a Percent Above or Below**  
**Private Sector Wage & Salary per Job: 1969-2009<sup>12</sup>**



### Benefit Ratios

The benefit ratio is derived by dividing state and local government benefits per job by private sector benefits per job. According to the U.S. Department of Commerce's Bureau of Economic Analysis, in 2009 state and local government benefits were \$13,408 per job while private sector

<sup>9</sup> See Note 8 in Methodology.

<sup>10</sup> *Ibid.*

<sup>11</sup> *Ibid.*

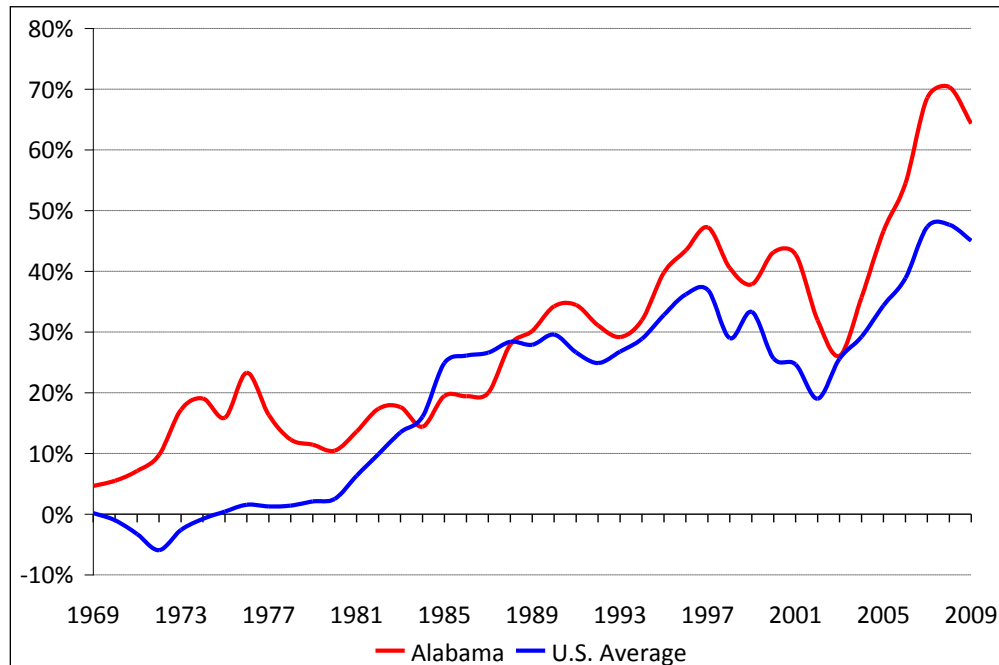
<sup>12</sup> *Ibid.*

benefits were \$8,160 per job, making public sector benefits 64.3 percent larger than those in the private sector.<sup>13</sup>

Chart 5 and Table A-4 in the appendix show changes in the benefit ratio since 1969 and by state. Since 1969, Alabama's state and local government benefits have been greater than those in the private sector.<sup>14</sup> Since 2003, the gap between the benefits of state and local government employees versus those in the private sector has widened, with the largest gap of 70.4 percent in 2008.

In 2009, Alabama's benefit ratio was the 12<sup>th</sup> highest in the country (see Table A-4 in the appendix). Regionally, Alabama has the third highest ratio with Florida's (66.8 percent, 9<sup>th</sup>) and Mississippi's (66.5 percent, 10<sup>th</sup>) ratios being higher. The ratios of Tennessee (41.4 percent; 31<sup>st</sup>) and Georgia (27.4 percent; 43<sup>rd</sup>) were lower.<sup>15</sup>

**Chart 5**  
**State and Local Government Benefits as a Percent Above or Below**  
**Private Sector Supplemental per Job: 1969-2009<sup>16</sup>**



<sup>13</sup> See Note 9 in Methodology.

<sup>14</sup> *Ibid.*

<sup>15</sup> *Ibid.*

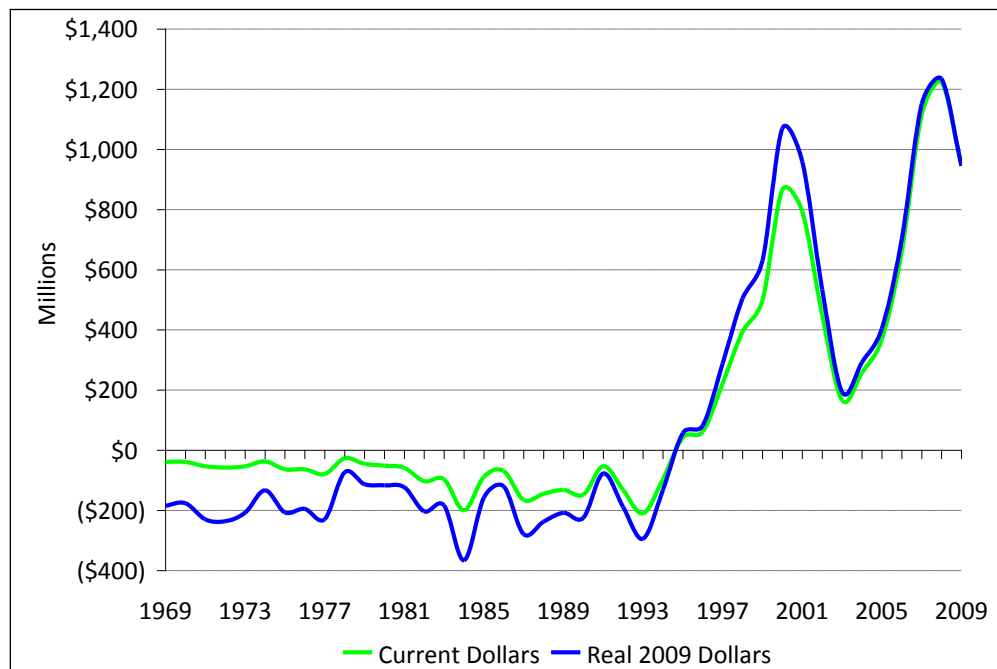
<sup>16</sup> *Ibid.*

### Budget Savings

As shown in Charts 6 and 7 and in Table A-5 in the appendix, if Alabama's employment ratio in 2009 had been adjusted to the national average, approximately \$2.39 billion in wages would have been saved.<sup>17</sup> Had the state's compensation ratio been adjusted to the national average, an additional \$945 million would have been saved.<sup>18</sup>

Had the same ratio been maintained from 1969 to 2009, approximately \$50.1 billion (in real 2009 dollars) would have been saved over this 40-year period, whereas adjusting the compensation ratio would have saved taxpayers up to \$4.1 billion (real 2009 dollars).<sup>19</sup>

**Chart 6**  
**Alabama's State and Local Budget Savings if Private/Public Compensation Ratio**  
**Equaled the National Average: 1969-2009<sup>20</sup>**



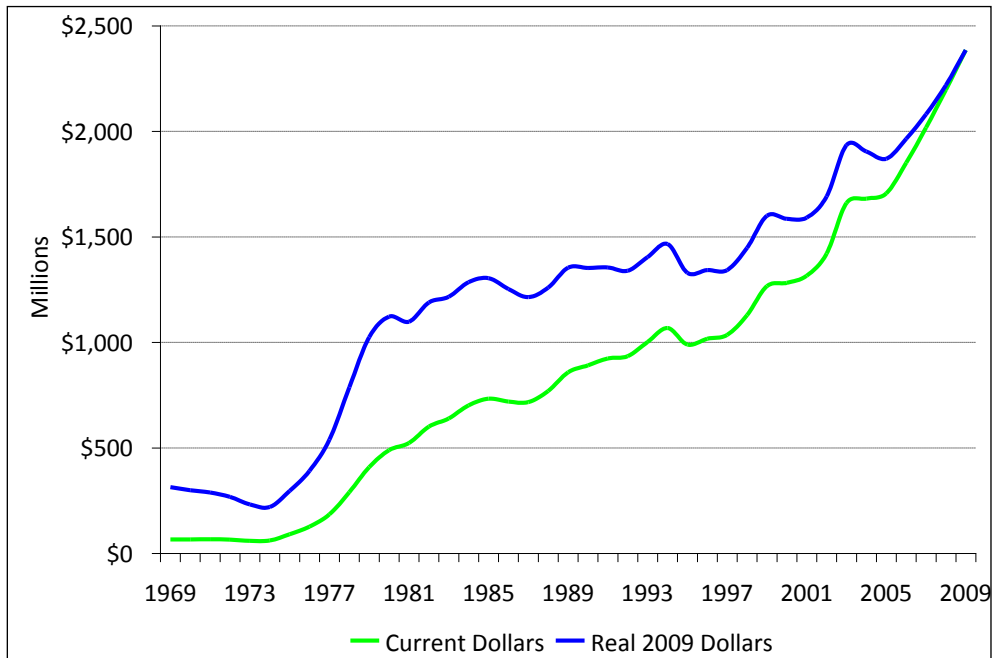
<sup>17</sup> See Note 12 in Methodology.

<sup>18</sup> See Note 10 in Methodology.

<sup>19</sup> See Note 12 in Methodology.

<sup>20</sup> *Ibid.*

**Chart 7**  
**Alabama's State and Local Budget Savings If Private/Public Employment Ratio**  
**Equaled the National Average: 1969-2009<sup>21</sup>**



**Conclusion**

Overall, policymakers should be most concerned with Alabama’s employment ratio which was the 11<sup>th</sup> highest in the country in 2009. The state’s high benefit ratio of 64.3 percent is also of particular concern as it ranks as the 12<sup>th</sup> highest in the country. Both problems are a significant contributing factor to Alabama’s unfunded pension and retiree health care liability.

Policymakers should be aware that another way to solve these challenges is to grow the private sector, boosting both employment and paychecks. When pro-growth economic policies—such as fewer regulations, lower taxes, and secure property rights—are pursued, economic development will be promoted, allowing private sector businesses to better compensate and hire additional employees. Such policies are win-win for both the private and public sector.

**Section Two: Understanding Alabama’s Unfunded Retiree Liabilities**

Alabama’s pension system consists of three separate retirement systems—the Teachers’ Retirement System (TRS), the Employees’ Retirement System (ERS) and the Judicial Retirement Fund (JRF).<sup>22</sup> This study focuses on these three pension systems since they constitute the

<sup>21</sup> *Ibid.*

<sup>22</sup> Alabama’s pension system is managed by The Retirement Systems of Alabama. Their website, which is the source for the pension information used in this study, can be found here: [www.rsa-al.gov](http://www.rsa-al.gov).

majority of Alabama’s pension system and will hereafter be referred to as the “Alabama pension system.”<sup>23</sup>

In addition to the pension system, Alabama also provides retirees with Other Post Employment Benefits (OPEB) which mostly provide for health insurance. There are two separate OPEB systems—the Public Education Employees’ Health Insurance Plan (PEEHIP) and the State Employees’ Health Insurance Plan (SEHIP) and will hereafter be referred to as the “Alabama OPEB system.”<sup>24</sup>

The health of Alabama’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 vary in one of two ways: the value of the assets change, and the Alabama state government pays an annual contribution.

**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. As shown in Table A-6 in the appendix, in FY 2009 the TRS had assets worth an estimated \$20.6 billion while liabilities were estimated to be \$27.5 billion. This leaves an unfunded pension liability (liabilities minus assets) of almost \$7 billion.<sup>25</sup>

A common way to show the unfunded pension liability is the “funded ratio,” which is assets divided by liabilities. Table A-6 in the appendix and Chart 8 show the funded ratio for the pension system.

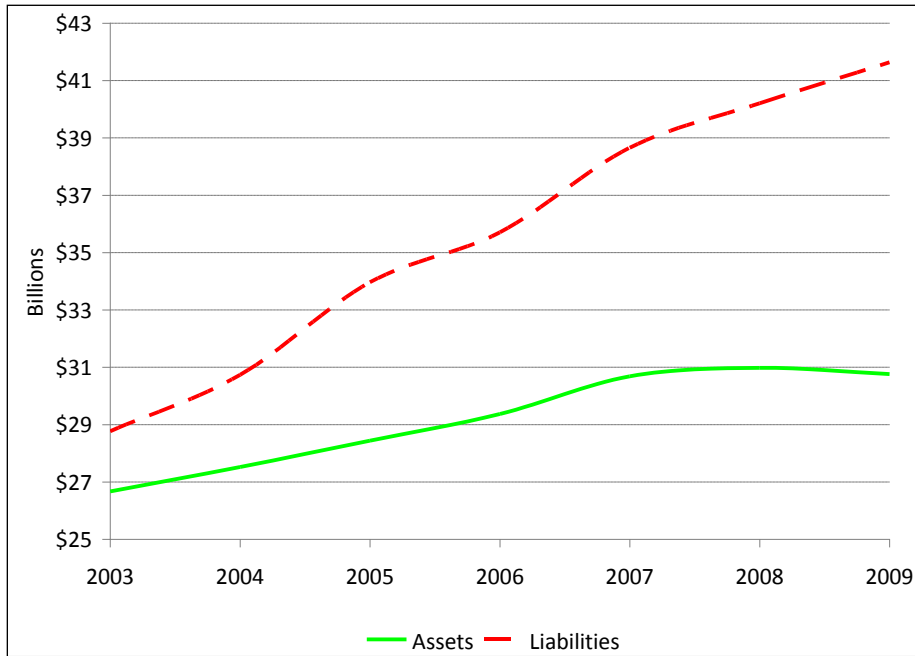
---

<sup>23</sup> Other pensions systems include: Peace Officers’ Annuity and Benefits, State Port Authority Hourly Plan, State Port Authority Railway Plan, Clerks and Registers Supernumerary, Flexible Employees’ Benefits Board and Employee Savings Plans.

<sup>24</sup> For a more detailed analysis of PEEHIP, see John R. Hill, “The PEEHIP Funding Crisis in Alabama.” Alabama Policy Institute, Forthcoming.

<sup>25</sup> “Comprehensive Annual Financial Report,” The Retirement Systems of Alabama, various years. Available at <http://tinyurl.com/684ssjf>. Access verified March 15, 2011.

**Chart 8**  
**Unfunded Pension Liability—the Gap between Assets and Liabilities:**  
**September 30, 2003 to September 30, 2009<sup>26</sup>**



In FY 2009, the funded ratio for the TRS was 74.7 percent, 72.2 percent for the ERS, and 74.1 percent for the JRF. More concerning than the ratios themselves is that the ratios for all systems are down considerably from just seven years earlier—TRS down 20.1 percent, ERS down 20.8 percent and JRF down 14.5 percent.<sup>27</sup>

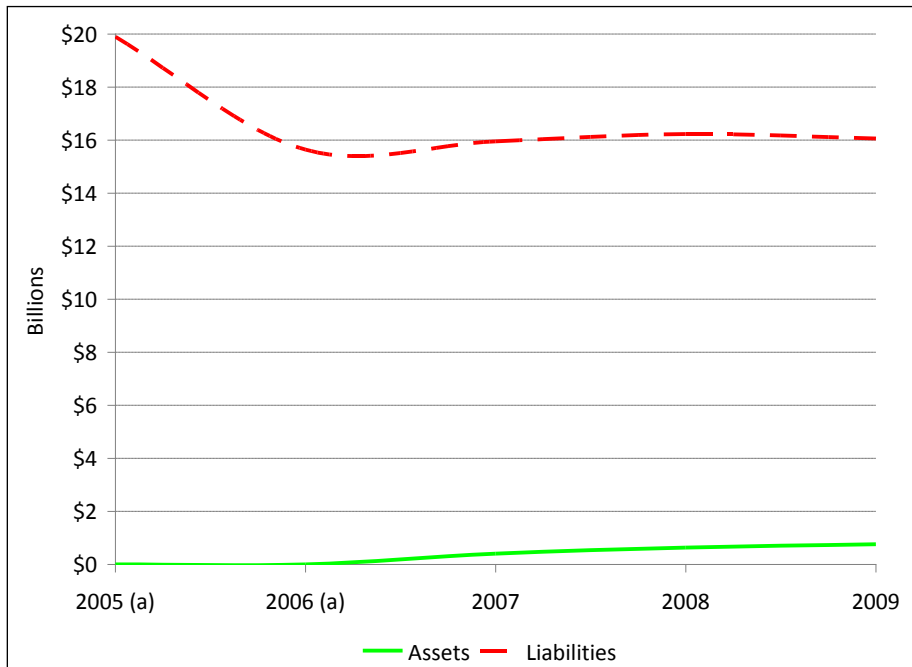
Additionally, as shown in Table A-8 in the appendix and Chart 9, the OPEB funded ratio in FY 2009 for PEEHIP was only 5.6 percent and for SEHIP a very low 2.1 percent. The state has set aside \$759 million while facing liabilities of \$16.1 billion. However, note that liabilities were much higher in FY 2005 at \$19.9 billion (the explanation for this drop is discussed later).<sup>28</sup>

<sup>26</sup> *Ibid.*

<sup>27</sup> *Ibid.*

<sup>28</sup> “Alabama Public Education Employees’ Health Insurance Plan Report of Actuary on the Retiree Medical Valuation,” The Retirement Systems of Alabama, September 30, 2009, pp. 5, 7. Available at <http://tinyurl.com/24gpte8>. Access verified March 15, 2011.

**Chart 9**  
**Unfunded Retiree Health Care Liability—the Gap between Assets and Liabilities:**  
**September 30, 2005 to September 30, 2009<sup>29</sup>**



(a) The discount rate was changed from 4 percent for the September 30, 2005 actuarial valuation to 5 percent for the September 30, 2006 valuation. The change in the discount rate was primarily responsible for the significant decrease in the actuarial accrued liability.

Under current law, 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 Table A-7 in the appendix and Chart 10, the annual required contribution to the state retirement system was \$1.2 billion in FY 2009. Just between FY 2004 and FY 2009, the pension contribution has grown a staggering 149 percent, from \$483 million to \$1.2 billion.<sup>30</sup>

As shown in Table A-9 in the appendix, the annual state contribution to the state OPEB system was set to be \$1.2 billion. The state, however, contributed only \$432 million, leaving a funding shortfall of \$742 million. At some point, the shortfall must be paid with interest, or benefits will have to be reduced, especially considering that OPEB liabilities are almost totally unfunded.<sup>31</sup>

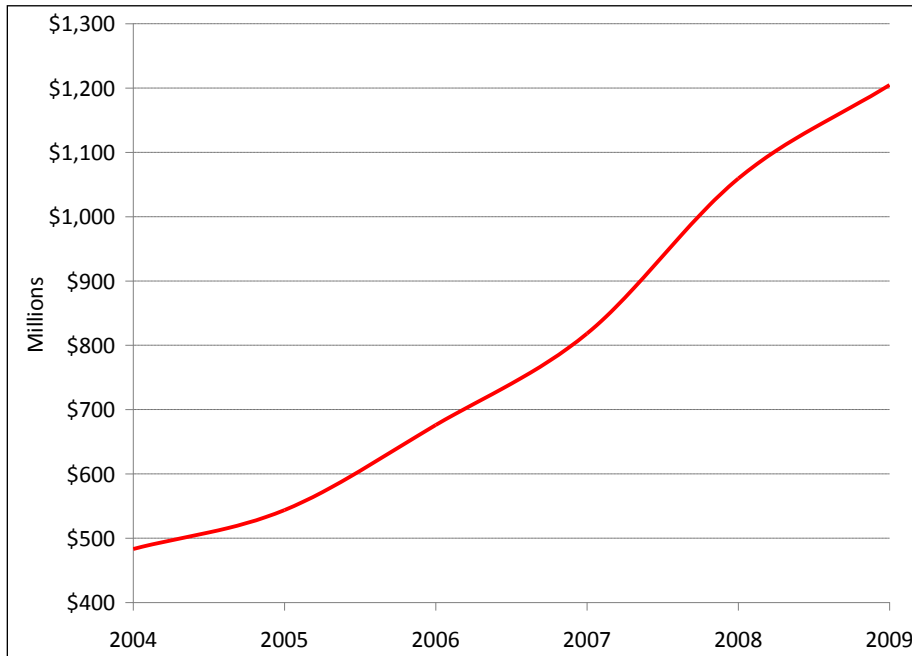
<sup>29</sup> *Ibid.*

<sup>30</sup> “Comprehensive Annual Financial Report,” The Retirement Systems of Alabama, various years.

<sup>31</sup> “Alabama Retired Education Employees’ Health Care Trust Financial Statements,” The Retirement Systems of Alabama, September 30, 2010, p. 19. Available at <http://tinyurl.com/5ttqg9q>. Access verified March 15, 2011; “The State Employees Insurance Board Financial Statements,” Alabama State Employees’ Insurance Board, September 30, 2010, p. 41. Available at <http://tinyurl.com/5udy16w>. Access verified March 15, 2011.

To put this burden into perspective for taxpayers, the required (not actual) FY 2009 state pension and OPEB contribution combined (\$2.5 billion) would have consumed nearly every penny collected by the state’s individual income tax (\$2.7 billion).<sup>32</sup>

**Chart 10**  
**Schedule of Employer Pension Contributions: September 30, 2004 to September 30, 2009<sup>33</sup>**



Official Pension Liabilities are Dramatically Underestimated

Alabama’s official unfunded pension liabilities are being significantly understated according to a series of path-breaking new analysis by economists Robert Novy-Marx and Joshua Rauh, who take issue with current standard actuarial methods required by the Government Accounting Standards Board (GASB).<sup>34</sup>

In particular, Novy-Marx and Rauh dispute the validity of the discount rate that GASB allows pension systems to use to convert their liabilities into today’s dollars. For example, suppose a pension system knew its liabilities were worth \$105 next year. Adjusting that \$105 into this year’s dollars using a 5 percent discount rate (based on their expected rate-of-return on assets) would equal \$100 (\$100 times 5 percent equals \$105).<sup>35</sup>

<sup>32</sup> Tax collection data from the U.S. Department of Commerce, Census Bureau, “State Government Tax Collections: 2009. State: Alabama.” Available at <http://tinyurl.com/5ueajbj>. Access verified January 10, 2011.

<sup>33</sup> “Comprehensive Annual Financial Report,” The Retirement Systems of Alabama, various years.

<sup>34</sup> Robert Novy-Marx and Joshua D. Rauh, “Public Pension Promises: How Big Are They and What Are They Worth?” *Journal of Finance* (forthcoming). October 8, 2010. Available at <http://tinyurl.com/4w3kc5k>. Access verified January 10, 2011.

<sup>35</sup> *Ibid.*

The authors found that the median discount rate used by the largest pension systems in the U.S. was 8 percent which, conversely, means that these pension systems anticipate earning 8 percent annually.<sup>36</sup> They counter that this discount rate is unrealistically high because it does not account for the risk associated with obtaining such high rates of return. For example, a “junk” bond pays high interest in order to offset the higher risk of default.

GASB, on the other hand, justifies the 8 percent discount rate because that is the long-term, historical rate-of-return of a diversified portfolio (60 percent equities and 40 percent bonds).<sup>37</sup> Since governments have infinite life-spans, it is reasonable to assume that, over time, they too will average the long-run rate-of-return.

Using GASB’s logic, however, pension systems could reduce, or even eliminate, their unfunded liabilities by simply raising the discount rate. Novy-Marx and Rauh conclude: “We note that current rules contain incentives for states to invest their pension funds in risky assets, because higher expected rates of return allow them to discount liabilities at higher rates. In turn, this arrangement could allow the state to present lower liability estimates to the public.”<sup>38</sup>

The importance of the discount rate on PEEHIP’s unfunded liabilities can be seen in Table A-8. Between FY 2005 and FY 2006, the discount rate was increased from 4 percent to 5 percent. Primarily as a result of this change, the program’s unfunded liability fell from \$14.6 billion to \$12.5 billion, a decline of \$2.1 billion.<sup>39</sup>

Overall, Novy-Marx and Rauh argue for a lower discount rate based on the risk-free return on Treasuries which would remove the investment risk to taxpayers.<sup>40</sup> To illustrate the effect of this kind of return, the authors recalculated state pension liabilities both nationally and by state for FY 2008. Nationally, they found that the stated unfunded pension liability for 116 of the largest pension plans was \$1.038 trillion. However, using more realistic, lower discount rates yielded estimates for pension underfunding ranging from \$1.31 trillion to a whopping \$3.23 trillion.<sup>41</sup>

Using the pension liabilities in Table A-10 in the appendix and the pension assets in Table A-6, Alabama’s \$10 billion stated unfunded pension liability in FY 2008 increases to somewhere in the range of at least \$14.5 billion to as high as \$47.8 billion (nearly five times official estimates).

---

<sup>36</sup> *Ibid.*

<sup>37</sup> Josh Barro and Stuart Buck, “Underfunded Teacher Pension Plans: It’s Worse than You Think.” Manhattan Institute for Policy Research *Civic Report No. 61*, April 2010. Available at <http://tinyurl.com/4pgdkhy>. Access verified January 11, 2011.

<sup>38</sup> Robert Novy-Marx and Joshua D. Rauh, “The Liabilities and Risks of State-Sponsored Pension Plans.” *Journal of Economic Perspectives*, Fall 2009, Vol. 23, No. 4, p. 202. Available at <http://tinyurl.com/y2jq3nl>. Access verified January 11, 2011.

<sup>39</sup> “Alabama Retired Education Employees’ Health Care Trust,” Financial Statements for Fiscal Year Ended September 30, 2009, p. 19. Available at <http://tinyurl.com/4de8os5>. Access verified January 11, 2011.

<sup>40</sup> For instance, as of December 10, 2010, the 10-year Treasury was paying a rate of 3.32 percent. Source: U.S. Department of the Treasury, “Daily Treasury Yield Curve Rates.” Available at <http://tinyurl.com/24zfpud>. Access verified January 11, 2011.

<sup>41</sup> Novy-Marx and Rauh, “Public Pension Promises: How Big Are They and What Are They Worth?”

By comparison, Alabama's general obligation (GO) debt totaled \$7.1 billion. Thus, Alabama's unfunded pension liability could be as much as seven times larger than the state's GO debt.

As Table A-10 also shows, Alabama's maximum pension liability (\$78.8 billion) is almost 48 percent of the state's GDP, the 10<sup>th</sup> highest percentage in the country. In Ohio—the state with the highest pension liability percentage—liabilities exceed 71 percent of GDP.

As serious as that news is to policymakers, Rauh builds on the first study to better illustrate the severity of this underfunding.<sup>42</sup> Since the reported pension liabilities are being dramatically understated, the current payments to the pension system are insufficient to fully fund the pension system. As a result, the pension system will at some point have to start cashing in the pension's assets in order to pay benefits.

According to Rauh's calculations, Alabama's pension system will run out of money in 2023—only 12 years from now. Alabama's date of insolvency is the 12<sup>th</sup> earliest in the nation, and is tied with Michigan, Minnesota and neighboring Mississippi. The earliest date of insolvency—2018—is held by Illinois.<sup>43</sup> In fact, the Illinois Teachers' Retirement System may have to sell \$3 billion in assets this year to pay for benefits.<sup>44</sup>

As guidance to policymakers, Rauh provides an estimate of the annual payment needed to fund Alabama's pension system adequately. According to his estimate, the required payment needs to be at least 75 percent larger than is currently being made.<sup>45</sup> Thus, in FY 2009, Alabama should have made a total pension payment of \$2.1 billion, which is \$903 million more than the \$1.2 billion payment actually made.

Unfortunately, Novy-Marx and Rauh do not examine the state of unfunded OPEB liabilities. However, the adjustment to Alabama'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 for both PEEHIP and SEHIP.<sup>46</sup>

Since Novy-Marx and Rauh published their study, a number of others have been produced that echo their findings. Andrew Biggs, for example, examines public sector pension plans using an options pricing method which he summarizes as:

---

<sup>42</sup> Joshua D. Rauh, "Are State Public Pensions Sustainable? Why the Federal Government Should Worry about State Pension Plans." Prepared for the Urban-Brookings Tax Policy Center/USC-Caltech Center for the Study of Law and Politics Conference, "Train Wreck: A Conference on America's Looming Fiscal Crisis," January 2010. Available at <http://tinyurl.com/4r4vtej>. Access verified January 11, 2011.

<sup>43</sup> *Ibid.*

<sup>44</sup> Darrell Preston, "Illinois Pension May Sell \$3 Billion of Assets to Pay Benefits." *Bloomberg BusinessWeek*, August 24, 2010. Available at <http://tinyurl.com/6dtdfmu>. Access verified January 11, 2011.

<sup>45</sup> Rauh, "Are State Public Pensions Sustainable? Why the Federal Government Should Worry about State Pension Plans."

<sup>46</sup> "Alabama Public Education Employees' Health Insurance Plan Report of Actuary on the Retiree Medical Valuation," pp. 5, 7.

*The structure of public pension financing may be summarized in the following way: a plan holds a portfolio, which is invested in risky assets. If these assets prove to be sufficient to pay accrued benefits, then the plan is solvent and, in many cases, benefits may be increased. If assets fall short of the level needed to pay accrued benefits then the plan—meaning the government and ultimately the taxpayer—will make up the difference.*

*This arrangement resembles a financial instrument known as a ‘put option.’ A put option gives the holder the right, though not the obligation, to sell a given asset at a given time for a given ‘strike price.’ In effect, a put option guarantees against the value of a stock falling below a certain level. Public sector pensions effectively provide such a put option via their legal ability to call upon taxpayers for additional funds as needed.<sup>47</sup>*

Using this methodology, Biggs estimates that the total unfunded liabilities in the U.S. in FY 2008 were \$3.04 trillion. Moreover, Biggs estimates that the average pension plan has only a 16 percent probability of meeting its benefit payments under current asset levels.<sup>48</sup>

In another report, Josh Barro and Stuart Buck examine the status of 59 teacher pension plans. Using the most recent data available, they found that the stated unfunded pension liability for teacher pensions was \$332 billion. However, their modified calculations, using standards set for the private sector by the Financial Accounting Standards Board (FASB), estimate that the unfunded pension liabilities are \$933 billion—almost three times the original amount.<sup>49</sup>

### Conclusion

As serious as Alabama’s official unfunded pension and OPEB liabilities are, new research shows that the extent of the unfunded pension liability is significantly larger. If nothing is done to remedy this, Alabama’s pension program will run out of assets by 2023. The status quo must be reformed if these obligations are to be fulfilled.

## **Section Three: Fixing Alabama’s Unfunded Retiree System**

The solution to fixing Alabama’s retiree crisis involves accomplishing five policy objectives:

- 1—Fix the Public Sector Over-Employment Problem
- 2—Transform Defined Benefit System into a Defined Contribution System

---

<sup>47</sup> Andrew G. Biggs, “An Options Pricing Method for Calculating the Market Price of Public Sector Pension Liabilities,” American Enterprise Institute, *Working Paper* #164, February 26, 2010, p. 18. Available at <http://tinyurl.com/4hlhqcv>. Access verified January 11, 2011.

<sup>48</sup> *Ibid.*

<sup>49</sup> Barro and Buck, “Underfunded Teacher Pension Plans: It’s Worse than You Think.”

- 3—Increase Retiree Contributions
- 4—Do Not Raise Taxes
- 5—Do Not Issue Pension Obligation Bonds

Objective 1: Fix the Public Sector Over-Employment Problem

In 2009, Alabama’s state and local governments employed 20.86 people for every 100 people employed in the private sector versus the national average ratio of 17.67.<sup>50</sup> If Alabama’s state and local government employment ratio was reduced to the national average, its workforce would be reduced by 49,601 people.

For every position eliminated, state and local governments would immediately save an average of \$50,999 in compensation, which includes wages and salaries as well as benefits.<sup>51</sup> If the national compensation average of \$48,088 was also achieved, almost \$2.4 billion in annual budget savings could be realized.<sup>52</sup> These savings could be used to shore up the pension system for the remaining public workforce.

More importantly, every position eliminated would save many times more than their pay in reduced pension and retiree health care liabilities. A conservative estimate can be made by dividing the total pension and retiree health care liabilities (\$26.2 billion) by the total number of state and local government employees (324,669) which yields \$177,696 in retiree benefit liabilities per employee (in today’s dollars).<sup>53</sup>

In summary, reducing Alabama’s employment ratio to the national average would provide significant budgetary savings, both now and in the future. The immediate budget savings could also be used to help pay for the pension liabilities of the remaining government workforce.

Objective 2—Transform Defined Benefit System into a Defined Contribution System

Due to the extent of the unfunded pension liabilities in the defined benefit pension systems across the country, more and more states have been moving towards a defined contribution system—similar to the 401(k) system that is popular in the private sector. Alabama should join this movement in order to reduce the long-term costs of the pension system.

---

<sup>50</sup> See Note 6 in Methodology.

<sup>51</sup> Source data from U.S. Department of Commerce, Bureau of Economic Analysis, State Annual Personal Income” (interactive database). September 10, 2010. Available at <http://tinyurl.com/47fbzb2>. Access verified March 15, 2011. State and local government employee compensation derived by dividing state and local government salaries (\$16.557 billion; Table SA05N, Line 2010) by state and local government employees (324,669; Table SA25, Line 2010).

<sup>52</sup> See Note 10 in Methodology.

<sup>53</sup> Retiree benefits savings would accrue over many years through lower annual required contributions by the state to the pension and retiree health care systems.

Currently, several states and Washington, D.C. have moved to defined contributions in one of three ways with varying levels of cost savings.<sup>54</sup>

- First, the largest cost savings can be achieved by moving all new government employees into a defined contribution system. At present, Alaska, Michigan, and the District of Columbia fall into this category.
- Second, the next-largest cost savings can be achieved by having both defined benefit and defined contribution systems. Currently, Indiana and Oregon have this program.<sup>55</sup>
- Finally, seven states allow for their employees to choose between a defined-benefit plan and a defined-contribution plan. However, depending on the specifics of each plan, there could be a lot of choice (both plans yielding very similar benefits) or very little choice (one plan yielding substantially greater benefits). As such, choice and corresponding cost savings can vary by state. At present, Colorado, Florida, Montana, North Dakota, Ohio, South Carolina and Washington are in this category. Utah recently enacted legislation in 2010 putting them into this category, but it does not become effective until July 1, 2011 so was excluded from the totals.<sup>56</sup>

Given Alabama's large unfunded pension liabilities, the state should implement the most effective option and institute a defined contribution plan. At the very least, putting new employees into a defined contribution plan would not add to the state's unfunded liabilities.

### Objective 3: Increase Retiree Contributions

Because annual pension contributions come from the state, there is an unwritten assumption that taxpayers will ultimately be responsible for covering any funding shortfalls. In reality, a better way to fully fund Alabama's pension plans is through reforming the plans themselves.

In their most recent study, Novy-Marx and Rauh examine various policy options that can be used to reform the pension system. While a number of options are discussed, two could be used to achieve significant savings on pension liabilities. First, eliminating all cost-of-living adjustments (COLAs) would save approximately 22 percent of current pension liabilities. Second, they estimate that if the state's pension plan was adjusted to the same standards as Social Security (i.e., increasing the full retirement age to 67 years, increasing the early

---

<sup>54</sup> Alex Golub-Sass, Kelly Haverstick, Alicia H. Munnell, Mauricio Soto, and Gregory Wiles, "Why Have Some States Introduced Defined Contribution Plans?" Center for Retirement Research, Boston College, No. 3, January 2008. Available at <http://tinyurl.com/4rzhdkt>. Access verified January 12, 2011.

<sup>55</sup> Nebraska could be included here but their system is a "cash balance plan" that more closely resembles an annuity because it guarantees a 5 percent return. In essence combining the security of a defined benefit system (with the guaranteed return) but the potential for superior returns under a defined contribution system (investment returns over 5 percent are kept by individual).

<sup>56</sup> Ronald Snell, "State Defined Contribution and Hybrid Pension Plans," National Conference of State Legislatures, June 2010. Available at <http://tinyurl.com/63m2efe>. Access verified March 15, 2011.

retirement age to 65 years and implementing early retirement age buyouts), another 22 percent could be saved.<sup>57</sup>

However, as dramatic as these changes may seem, reforming the pension system alone does not generate enough savings to insure the future viability of the pension system. They note:

*Even relatively dramatic policy changes, such as the elimination of COLAs or the implementation of Social Security retirement age parameters, would leave liabilities (for the 116 largest pension plans in the country) around \$1.5 trillion more than plan assets under Treasury discounting.*<sup>58</sup>

In addition, these changes to the pension system reduce retiree health care liabilities. For instance, by using “Social Security parameters,” the delay in retirement means fewer years carried by the OPEB system until the employee is eligible for Medicare and more years of health care contributions made by the employee.

Finally, because these changes were estimated at a national level, their effectiveness would likely vary if they were employed state-by-state. Thus, Alabama’s savings might be significantly different than the authors’ claims.

#### Objective 4: Do Not Raise Taxes

Recent economic studies, at the international, national and state levels, strongly suggest that reducing government spending is a better choice than raising taxes when deciding the best path to funding state pension obligations.

In one study, Harvard economists Alberto Alesina and Silvia Ardagna examined the economic effects of fiscal policy in countries that constitute the Organization for Economic Cooperation and Development from 1970 to 2007. They note:

*[A]s 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.*<sup>59</sup>

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

---

<sup>57</sup> Robert Novy-Marx and Joshua Rauh, “Policy Options for State Pensions Systems and Their Impact on Plan Liabilities.” Prepared for the NBER State and Local Pensions Conference in Jackson Hole, Wyoming, August 2010. Available at <http://tinyurl.com/6gyenpb>. Access verified January 12, 2011.

<sup>58</sup> *Ibid.*, p. 1.

<sup>59</sup> Alberto Alesina and Silvia Ardagna, “Large Changes in Fiscal Policy: Taxes versus Spending,” NBER *Working Paper* No. 15438, October 2009. Available at <http://tinyurl.com/6ysnueq>. Access verified January 12, 2011.

*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.*<sup>60</sup>

Finally, economists Stephen Brown, Kathy Hayes and Lori Taylor examined the economic effects of fiscal policy of the 50 states. They found:

*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.*<sup>61</sup>

#### Objective 5: Do Not Issue Pension Obligation Bonds

Borrowing money in order to reduce the state's unfunded pension liability would be a large risk. The gamble is that the returns earned on investing the borrowed money would exceed the costs of borrowing the money—commonly referred to as risk arbitrage.

To understand the risk involved, consider when Illinois issued one of the largest Pension Obligation Bonds (POB) ever in 2003 which totaled over \$10 billion. While the Illinois POBs were issued with a favorable average interest rate of 5.05 percent, the pension system must still reach its assumed rate of return of 8.5 percent to make this plan work. If these assumptions work out, then the pension system will have netted 3.45 percentage points.<sup>62</sup>

However, as pointed out previously, an assumed high rate of return of 8.5 percent is a big “if.” In fact, a new study by the Center for Retirement Research at Boston College, found that “while POBs may seem like a way to alleviate fiscal distress or reduce pension costs, they pose considerable risks. After the recent financial crisis, most POBs issued since 1992 are in the red.”<sup>63</sup>

---

<sup>60</sup> Christina D. Romer and David H. Romer, “The Macroeconomic Effect of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks.” NBER *Working Paper* No. 13264, July 2007. Available at <http://tinyurl.com/4lhbfq2>. Access verified January 12, 2011.

<sup>61</sup> Stephen P. A. Brown, Kathy J. Hayes, and Lori L. Taylor, “State and Local Policy, Factor Markets, and Regional Growth.” *Review of Regional Studies*, Vol. 33, No. 1, 2003, pp. 40-60. Available at <http://tinyurl.com/4g5lnvs>. Access verified January 12, 2011.

<sup>62</sup> J. Scott Moody, John Tillman, and Wendy P. Warcholik, “Mission Possible: An Update to the Pension Funding and Fairness Act,” Illinois Policy Institute, *Policy Brief*, June 9, 2010. Available at <http://tinyurl.com/34ndugc>. Access verified March 15, 2011.

<sup>63</sup> Jean-Pierre Aubry, Thad Calabrese Ashby Monk, and Alicia H. Munnell, “Pension Obligation Bonds: Financial Crisis Exposes Risks.” Center for Retirement Research at Boston College, *State and Local Pension Plans*, No. 9, January 2010. Available at <http://tinyurl.com/45w6dco>. Access verified January 12, 2011.

Additionally, the POBs were a disguised way of borrowing to balance the general budget. James B. Burnham, the Murrin Professor of Global Competitiveness at Duquesne University, had this to say about Illinois' POBs:

*Facing a \$5 billion budget deficit for fiscal year 2004, the State of Illinois recently turned to its five retirement systems for savings in its operating budget. The plan: borrow money to refinance a portion of the state's \$36 billion unfunded pension liability and use a chunk of the proceeds to cover operating budget contributions to the pension systems, thus freeing up nearly \$2 billion to offset budget deficits. As attractive as this plan may appear from a budgetary perspective, the issuance of pension bonds generally carries significant risks that are often downplayed in light of immediate fiscal pressures and the concerns of pensioners.<sup>64</sup>*

Overall, the Illinois POBs may seem like a good deal in the short-term because the state was able to take the assumed savings out of the pension system and use that money to balance their budget. However, the risk in the long-term falls on taxpayers if the pension system fails to deliver the investment returns since taxpayers will be on the hook for both the unfunded pension liability and the payoff on the POBs.

At best, POBs are akin to paying off one credit card with another. Alabama policymakers should heed the lessons learned from Illinois (now the worst-funded pension system in the country) and avoid following in their footsteps by issuing pension obligation bonds.

### Conclusion

In the end, three options are available to Alabama policymakers to solve the state's pension and retiree health care crises: (1) raise taxes; (2) reduce other government spending; or (3) reform the state's pension and retiree health care systems. Since raising taxes would only weaken Alabama's economy and jeopardize the state's ability to meet its retiree obligations, the only viable options are to reduce other government non-pension spending, especially over-employment in the government workforce, and reform retiree pension and health care benefits.

---

<sup>64</sup> James B. Burnham, "Risky Business? Evaluating the Use of Pension Obligation Bonds," *Government Finance Review*, June 2003. Available at <http://tinyurl.com/45km5sc>. Access verified January 11, 2011.

## Methodology

The employment and compensation data used in this study are from the Bureau of Economic Analysis' Regional Economic Accounts.<sup>65</sup>

All calculations were performed by the authors. The data exclude farm and proprietorship income as well as dividends, interest, and rents, and personal current transfer receipts. The data were adjusted for inflation using the GDP deflator. The data also reflects the recent comprehensive revision for the years 1969 to 2009.

It is important to note that the BEA accounts for contributions paid into the pension and retiree health care funds on a cash-basis as opposed to an accrual-basis. In other words, only the actual contribution paid count as benefits even if it is below the required actuarial contribution.

The cash-basis accounting by BEA can lead to under/over statements of benefits relative to other states depending on the contribution level. For instance, all else being equal, a state that fully funds its pension and retiree health care liabilities will show higher benefits costs than a state that does not. Additionally, states that issue bonds to pay their unfunded liabilities will have one-time jumps in their benefit costs.

This important issue is being studied by the BEA with recommendations for moving away from a cash-basis and toward an accrual-basis.<sup>66</sup>

### Calculating State and Local Government Compensation Ratios

All data are from the Bureau of Economic Analysis, Regional Economic Accounts, "State Annual Personal Income" interactive database, which is available at <http://www.bea.gov/regional/spi/>. Identical computations were used to derive national data from the same sources.

1. To derive total supplemental benefits for any industry, find the industry line in Table SA05N (Personal Income by Major Source and Earnings by NAICS Industry) and subtract the same industry line from Table SA07N ("Wage and Salary Disbursements by NAICS Industry").
2. Average Alabama private sector compensation (\$45,998) is derived by adding "Private wage and salary disbursements" (\$58.891 billion; see SA07N, Line 90) and "Supplements to wages and salaries" (\$12.699 billion; see SA05N, Line 60), then dividing by private sector employment (1,556,404; see Note 3). Total supplemental income for private sector employees can also be derived by taking "Private earnings" (\$81.998 billion; see SA05N,

---

<sup>65</sup> These are available at [www.bea.gov/regional/index.htm#state](http://www.bea.gov/regional/index.htm#state).

<sup>66</sup> Marshall B. Reinsdorf and David G. Lenze, "Defined Benefit Pensions and Household Income and Wealth." U.S. Bureau of Economic Analysis, *Research Spotlight*, August 2009. Available at <http://tinyurl.com/6fhozlr>. Access verified January 11, 2011.

Line 10) and subtracting “Private wage and salary disbursements” (\$58.891 billion; see SA07N, Line 90) and “Nonfarm proprietors income” (\$10.406 billion; see SA05N, Line 72).

3. Private sector employment in Alabama (1,556,404) comes from Table SA25N (“Total Full-Time and Part-Time Employment by NAICS Industry”), and equals “Private employment” (2,038,180; see Line 90) minus “Nonfarm proprietors employment” (481,776; see Line 60).
4. Total state and local government employee compensation in Alabama is “Wage and salary disbursements” (\$12.204 billion; see SA07, Line 2010) plus “supplemental income” (\$4.353 billion), which is equal to “Personal income” (\$16.557 billion; see SA05N, Line 2010) minus “Wage and salary disbursements” (\$12.204 billion).
5. State and local government employment in Alabama (324,669) is from Table SA25, Line 2010.
6. Number of state and local government jobs per 100 in Alabama was calculated by dividing total state and local government employment (324,669; see Note 5) by total private employment (1,556,404; see Note 3) to obtain 20.86 per 100 total jobs. Similar calculations were made using the same source data to derive a national employment ratio (17.67).
7. Compensation ratios for 2009 are created by dividing the average state and local government compensation by job (\$50,999; see Note 11) by the average private sector compensation per job (\$45,998; see Note 2) yielding a compensation premium for state and local government workers of 10.9 percent.
8. Wage and salary ratios for 2009 are created by first dividing wage and salary disbursements for state and local government workers (\$12.204 billion; see SA07N, Line 2010) by state and local government employment (324,669; see Note 5) to derive an average state and local government wage and salary per job (\$37,591). Next, the same is done with private sector jobs (\$58.891 billion [see SA07N, Line 90] divided by 1,556,404; see Note 3) to obtain an average private sector salary of \$37,838. Finally, the average state and local government salary per job was divided by the average private sector salary to obtain a premium for state and local government employees of -0.7 percent.
9. Benefit ratios for 2009 for Alabama state and local government employees are created by first subtracting state and local “Wage and Salary Disbursements by NAICS Industry” (\$12.204 billion; see SA07N, Line 2010) from “Personal Income by Major Source and Earnings by NAICS Industry” (\$16.557 billion; see SA05N, Line 2010) to derive total supplemental benefits for state and local personnel (\$4.353 billion). Next, this remainder is divided by Alabama’s total state and local government employment (324,669; see Note 5) to obtain average public sector benefits of \$13,408. The same is done with private sector employees (\$12.699 billion [see SA05N, Line 60], divided by 1,556,404 [see Note 3]), to obtain average private sector benefits of \$8,160. Finally, public sector benefits are divided by private sector benefits to obtain a public sector employee benefit ratio of 64.3.

10. Budget savings for 2009 are estimated by taking the difference between Alabama's state and local government compensation (\$50,999; see Note 3) and the national average (\$48,088; apply Note 3 formula to national data) and multiplying the difference (\$2,911) by the total number of state and local workers (324,669; see Note 5), yielding \$945.1 million in savings.
11. State and local government employee compensation for Alabama (\$50,999) is derived by dividing state and local government salaries (\$16.557 billion; see SA05N, Line 2010) by state and local government employees (324,669; see SA25, Line 2010). National state and local compensation (\$48,088) is calculated by raising the national private sector compensation (\$45,998; see Note 2) by 4.5 percent (the national average public-to-private compensation advantage; see Table A-2).
12. Budget savings are estimated by taking the difference in the employment ratios between Alabama (20.86; see Note 6) and the national average (17.67) and multiplying by Alabama's private sector workforce (1,556,404; see Note 3) to get the aggregate over-employment (49,601). This number is multiplied by the average national state and local compensation (\$48,088), yielding \$2.4 billion in savings for 2009.

## Appendix

**Table A-1**  
**Number of State and Local Jobs per 100 Private Sector Jobs by State and Rank:**  
**Selected Calendar Years<sup>67</sup>**

|                      | 1970        |           | 1980        |           | 1990        |           | 2000        |           | 2009         |           |
|----------------------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|--------------|-----------|
|                      | Ratio       | Rank      | Ratio       | Rank      | Ratio       | Rank      | Ratio       | Rank      | Ratio        | Rank      |
| <b>U.S. Average</b>  | <b>16.1</b> | --        | <b>17.1</b> | --        | <b>16.1</b> | --        | <b>15.8</b> | --        | <b>17.67</b> | --        |
| <b>State</b>         |             |           |             |           |             |           |             |           |              |           |
| <b>Alabama</b>       | <b>17.4</b> | <b>23</b> | <b>20.3</b> | <b>12</b> | <b>18.8</b> | <b>15</b> | <b>18.2</b> | <b>16</b> | <b>20.86</b> | <b>11</b> |
| Alaska               | 28.0        | 4         | 29.3        | 1         | 29.7        | 2         | 27.2        | 2         | 26.33        | 3         |
| Arizona              | 19.2        | 18        | 19.4        | 17        | 17.5        | 22        | 15.9        | 30        | 17.60        | 32        |
| Arkansas             | 17.2        | 24        | 18.8        | 23        | 17.1        | 24        | 16.7        | 23        | 19.97        | 15        |
| California           | 17.4        | 22        | 16.4        | 39        | 14.9        | 38        | 16.1        | 28        | 18.24        | 25        |
| Colorado             | 20.8        | 15        | 18.1        | 26        | 17.3        | 23        | 14.9        | 36        | 17.73        | 30        |
| Connecticut          | 12.0        | 50        | 12.8        | 50        | 12.8        | 48        | 14.6        | 39        | 16.50        | 40        |
| Delaware             | 15.2        | 37        | 17.1        | 34        | 13.5        | 45        | 14.0        | 42        | 16.09        | 42        |
| <b>Florida</b>       | <b>16.5</b> | <b>31</b> | <b>16.5</b> | <b>38</b> | <b>15.3</b> | <b>35</b> | <b>13.7</b> | <b>45</b> | <b>15.22</b> | <b>46</b> |
| <b>Georgia</b>       | <b>15.7</b> | <b>36</b> | <b>18.8</b> | <b>24</b> | <b>16.6</b> | <b>26</b> | <b>14.7</b> | <b>38</b> | <b>18.20</b> | <b>26</b> |
| Hawaii               | 16.7        | 30        | 17.3        | 33        | 16.2        | 31        | 18.4        | 14        | 19.12        | 17        |
| Idaho                | 23.1        | 7         | 21.9        | 8         | 21.7        | 9         | 20.2        | 9         | 20.54        | 13        |
| Illinois             | 13.9        | 42        | 15.2        | 44        | 14.1        | 43        | 13.8        | 43        | 15.69        | 44        |
| Indiana              | 13.8        | 43        | 16.0        | 40        | 14.4        | 41        | 13.8        | 44        | 16.60        | 38        |
| Iowa                 | 20.2        | 16        | 20.1        | 13        | 18.9        | 14        | 17.5        | 17        | 18.77        | 19        |
| Kansas               | 22.7        | 9         | 20.3        | 11        | 20.7        | 12        | 19.7        | 11        | 21.48        | 7         |
| Kentucky             | 16.4        | 32        | 17.8        | 28        | 16.4        | 27        | 16.6        | 24        | 18.65        | 20        |
| Louisiana            | 21.1        | 13        | 19.9        | 14        | 21.6        | 10        | 21.1        | 6         | 21.24        | 8         |
| Maine                | 16.9        | 29        | 17.9        | 27        | 17.0        | 25        | 16.2        | 27        | 17.57        | 33        |
| Maryland             | 17.1        | 26        | 19.1        | 18        | 15.2        | 37        | 15.0        | 33        | 16.69        | 37        |
| Massachusetts        | 12.4        | 48        | 14.7        | 46        | 12.9        | 47        | 12.5        | 48        | 13.51        | 49        |
| Michigan             | 15.9        | 34        | 18.4        | 25        | 16.1        | 32        | 15.1        | 32        | 17.73        | 29        |
| Minnesota            | 17.8        | 20        | 16.7        | 37        | 16.1        | 33        | 15.0        | 34        | 15.84        | 43        |
| <b>Mississippi</b>   | <b>21.6</b> | <b>12</b> | <b>23.2</b> | <b>5</b>  | <b>22.6</b> | <b>6</b>  | <b>22.2</b> | <b>4</b>  | <b>25.62</b> | <b>4</b>  |
| Missouri             | 14.2        | 41        | 15.4        | 42        | 14.1        | 42        | 15.5        | 31        | 17.37        | 35        |
| Montana              | 24.8        | 6         | 24.0        | 4         | 24.9        | 4         | 21.5        | 5         | 20.89        | 10        |
| Nebraska             | 22.0        | 11        | 22.0        | 7         | 19.9        | 13        | 16.9        | 19        | 18.54        | 22        |
| Nevada               | 16.2        | 33        | 13.4        | 49        | 11.6        | 50        | 11.2        | 50        | 13.40        | 50        |
| New Hampshire        | 14.6        | 40        | 15.3        | 43        | 14.0        | 44        | 13.4        | 46        | 15.58        | 45        |
| New Jersey           | 13.2        | 45        | 16.9        | 35        | 15.3        | 36        | 14.7        | 37        | 17.41        | 34        |
| New Mexico           | 26.5        | 5         | 24.9        | 2         | 26.1        | 3         | 25.5        | 3         | 26.98        | 2         |
| New York             | 17.1        | 25        | 17.6        | 30        | 18.3        | 17        | 17.4        | 18        | 18.60        | 21        |
| North Carolina       | 13.7        | 44        | 17.5        | 31        | 16.3        | 30        | 16.5        | 25        | 19.64        | 16        |
| North Dakota         | 30.3        | 2         | 22.2        | 6         | 23.3        | 5         | 21.0        | 7         | 20.58        | 12        |
| Ohio                 | 13.1        | 46        | 15.2        | 45        | 14.5        | 40        | 14.1        | 41        | 16.58        | 39        |
| Oklahoma             | 20.8        | 14        | 19.5        | 16        | 21.9        | 7         | 19.8        | 10        | 23.59        | 5         |
| Oregon               | 20.2        | 17        | 19.1        | 19        | 17.9        | 19        | 16.9        | 20        | 18.50        | 23        |
| Pennsylvania         | 12.3        | 49        | 13.5        | 48        | 12.2        | 49        | 12.4        | 49        | 13.66        | 48        |
| Rhode Island         | 13.1        | 47        | 14.5        | 47        | 13.1        | 46        | 13.4        | 47        | 13.82        | 47        |
| South Carolina       | 15.2        | 38        | 19.0        | 21        | 18.1        | 18        | 18.7        | 12        | 20.92        | 9         |
| South Dakota         | 31.4        | 1         | 24.8        | 3         | 21.3        | 11        | 18.6        | 13        | 18.99        | 18        |
| <b>Tennessee</b>     | <b>14.9</b> | <b>39</b> | <b>17.3</b> | <b>32</b> | <b>14.8</b> | <b>39</b> | <b>14.3</b> | <b>40</b> | <b>16.78</b> | <b>36</b> |
| Texas                | 15.9        | 35        | 15.7        | 41        | 17.5        | 21        | 16.9        | 21        | 18.19        | 27        |
| Utah                 | 22.9        | 8         | 19.9        | 15        | 18.7        | 16        | 16.9        | 22        | 17.66        | 31        |
| Vermont              | 17.0        | 27        | 17.8        | 29        | 16.4        | 28        | 16.2        | 26        | 18.37        | 24        |
| Virginia             | 16.9        | 28        | 19.0        | 22        | 16.3        | 29        | 16.1        | 29        | 17.93        | 28        |
| Washington           | 22.5        | 10        | 19.0        | 20        | 17.7        | 20        | 18.2        | 15        | 20.07        | 14        |
| West Virginia        | 19.1        | 19        | 21.0        | 9         | 21.7        | 8         | 20.7        | 8         | 21.64        | 6         |
| Wisconsin            | 17.7        | 21        | 16.9        | 36        | 15.5        | 34        | 14.9        | 35        | 16.48        | 41        |
| Wyoming              | 28.8        | 3         | 20.9        | 10        | 30.5        | 1         | 28.0        | 1         | 27.39        | 1         |
| District of Columbia | 16.2        | --        | 15.2        | --        | 13.5        | --        | 8.48        | --        | 8.56         | --        |

<sup>67</sup> See Note 6 in Methodology.

**Table A-2**  
**State and Local Compensation as a Percent Above or Below Private Sector by State and Rank:**  
**Selected Calendar Years<sup>68</sup>**

|                      | 1970         |           | 1980         |           | 1990        |           | 2000         |           | 2009         |           |
|----------------------|--------------|-----------|--------------|-----------|-------------|-----------|--------------|-----------|--------------|-----------|
|                      | Difference   | Rank      | Difference   | Rank      | Difference  | Rank      | Difference   | Rank      | Difference   | Rank      |
| <b>U.S. Average</b>  | <b>-2.7%</b> | <b>--</b> | <b>-7.7%</b> | <b>--</b> | <b>4.8%</b> | <b>--</b> | <b>-3.2%</b> | <b>--</b> | <b>4.5%</b>  | <b>--</b> |
| State                |              |           |              |           |             |           |              |           |              |           |
| <b>Alabama</b>       | <b>-6.7%</b> | <b>28</b> | -9.2%        | 24        | <b>2.4%</b> | <b>32</b> | <b>5.6%</b>  | <b>17</b> | <b>10.9%</b> | <b>17</b> |
| Alaska               | -3.8         | 20        | 3.8          | 5         | 14.6        | 5         | 8.3          | 8         | 4.8          | 31        |
| Arizona              | -4.0         | 21        | -7.5         | 18        | 9.9         | 10        | -4.1         | 34        | 8.3          | 20        |
| Arkansas             | -5.0         | 25        | -9.6         | 26        | 5.0         | 24        | 6.9          | 13        | 9.6          | 19        |
| California           | 12.7         | 2         | 4.6          | 4         | 11.7        | 8         | -4.9         | 38        | 12.6         | 9         |
| Colorado             | -9.5         | 40        | -11.6        | 30        | 1.7         | 34        | -13.3        | 48        | -5.9         | 46        |
| Connecticut          | -2.2         | 15        | -9.5         | 25        | 4.4         | 28        | -10.8        | 45        | 11.0         | 15        |
| Delaware             | -14.4        | 46        | -13.1        | 35        | 0.8         | 39        | -5.5         | 40        | 5.1          | 26        |
| <b>Florida</b>       | <b>-0.9</b>  | <b>10</b> | -1.2         | 9         | <b>19.5</b> | <b>4</b>  | <b>16.3</b>  | <b>3</b>  | <b>18.3</b>  | <b>5</b>  |
| <b>Georgia</b>       | <b>-4.9</b>  | <b>24</b> | -12.4        | 32        | <b>1.0</b>  | <b>38</b> | <b>-8.7</b>  | <b>43</b> | <b>-7.2</b>  | <b>50</b> |
| Hawaii               | 28.1         | 1         | 17.6         | 1         | 10.4        | 9         | 6.8          | 14        | 25.9         | 3         |
| Idaho                | -15.3        | 49        | -15.8        | 41        | -2.8        | 45        | -1.7         | 30        | 6.7          | 23        |
| Illinois             | -11.9        | 42        | -15.5        | 40        | -5.5        | 46        | -4.3         | 36        | 0.8          | 41        |
| Indiana              | -14.7        | 47        | -21.4        | 48        | 1.7         | 35        | 1.1          | 26        | 2.5          | 36        |
| Iowa                 | -6.1         | 27        | -11.0        | 29        | 8.6         | 14        | 8.8          | 7         | 14.0         | 7         |
| Kansas               | -9.2         | 38        | -18.6        | 45        | -8.1        | 49        | -12.7        | 46        | -6.7         | 48        |
| Kentucky             | -7.0         | 31        | -14.8        | 39        | 4.7         | 25        | 0.4          | 28        | 5.1          | 27        |
| Louisiana            | -11.0        | 41        | -22.6        | 49        | -9.7        | 50        | -3.3         | 32        | 5.0          | 28        |
| Maine                | -4.6         | 23        | -7.5         | 19        | 7.3         | 19        | 7.5          | 9         | 10.9         | 16        |
| Maryland             | 2.6          | 7         | 0.0          | 6         | 20.2        | 3         | 7.1          | 12        | 11.7         | 12        |
| Massachusetts        | 6.2          | 5         | 0.0          | 7         | 3.0         | 31        | -12.9        | 47        | -7.0         | 49        |
| Michigan             | -8.8         | 36        | -12.3        | 31        | 1.6         | 36        | -5.4         | 39        | 12.3         | 11        |
| Minnesota            | -4.4         | 22        | -3.1         | 10        | 6.1         | 21        | -3.9         | 33        | 2.3          | 38        |
| <b>Mississippi</b>   | <b>-9.1</b>  | <b>37</b> | -12.9        | 33        | <b>3.0</b>  | <b>30</b> | <b>5.8</b>   | <b>16</b> | <b>11.3</b>  | <b>13</b> |
| Missouri             | -13.7        | 45        | -15.9        | 42        | -2.5        | 43        | -7.3         | 41        | -2.1         | 43        |
| Montana              | -9.4         | 39        | -8.9         | 22        | 5.9         | 22        | 14.8         | 4         | 18.4         | 4         |
| Nebraska             | -7.7         | 34        | -14.3        | 38        | 8.0         | 16        | 2.6          | 23        | 6.8          | 22        |
| Nevada               | -1.8         | 12        | -1.0         | 8         | 25.6        | 1         | 26.2         | 2         | 35.0         | 1         |
| New Hampshire        | -7.8         | 35        | -14.1        | 37        | -2.8        | 44        | -15.6        | 50        | -3.5         | 44        |
| New Jersey           | -3.2         | 17        | -13.0        | 34        | 4.6         | 26        | -1.6         | 29        | 10.2         | 18        |
| New Mexico           | -3.2         | 16        | -10.9        | 28        | 1.1         | 37        | 6.5          | 15        | 12.5         | 10        |
| New York             | 7.5          | 4         | 9.3          | 3         | 7.4         | 18        | -8.4         | 42        | 2.4          | 37        |
| North Carolina       | 9.4          | 3         | -3.3         | 11        | 8.6         | 13        | 1.2          | 25        | 3.8          | 32        |
| North Dakota         | -13.6        | 44        | -13.3        | 36        | 4.2         | 29        | 2.8          | 22        | 0.9          | 40        |
| Ohio                 | -15.1        | 48        | -20.2        | 47        | 0.2         | 41        | 1.9          | 24        | 4.8          | 30        |
| Oklahoma             | -12.9        | 43        | -17.8        | 44        | -1.3        | 42        | 7.2          | 10        | 3.7          | 34        |
| Oregon               | -2.1         | 14        | -6.9         | 16        | 7.8         | 17        | 4.1          | 19        | 11.2         | 14        |
| Pennsylvania         | -3.4         | 18        | -5.5         | 14        | 14.4        | 6         | 3.6          | 21        | 2.9          | 35        |
| Rhode Island         | 0.4          | 8         | 9.5          | 2         | 25.6        | 2         | 26.6         | 1         | 34.1         | 2         |
| South Carolina       | -0.7         | 9         | -7.6         | 20        | 8.4         | 15        | 9.4          | 6         | 16.9         | 6         |
| South Dakota         | -5.6         | 26        | -7.1         | 17        | 5.1         | 23        | 3.8          | 20        | 4.8          | 29        |
| <b>Tennessee</b>     | <b>-3.7</b>  | <b>19</b> | -9.1         | 23        | <b>2.2</b>  | <b>33</b> | <b>-4.6</b>  | <b>37</b> | <b>-1.6</b>  | <b>42</b> |
| Texas                | -6.9         | 30        | -19.2        | 46        | -6.6        | 47        | -13.8        | 49        | -6.5         | 47        |
| Utah                 | -6.9         | 29        | -9.9         | 27        | 0.6         | 40        | 1.0          | 27        | 5.5          | 25        |
| Vermont              | -7.3         | 33        | -6.9         | 15        | 8.9         | 12        | 5.6          | 18        | 12.7         | 8         |
| Virginia             | 3.3          | 6         | -8.8         | 21        | 9.6         | 11        | -4.3         | 35        | -4.0         | 45        |
| Washington           | -7.0         | 32        | -4.1         | 13        | 6.7         | 20        | -9.9         | 44        | 0.9          | 39        |
| West Virginia        | -25.3        | 50        | -28.4        | 50        | -7.8        | 48        | 12.8         | 5         | 8.3          | 21        |
| Wisconsin            | -1.1         | 11        | -3.9         | 12        | 11.9        | 7         | 7.1          | 11        | 3.7          | 33        |
| Wyoming              | -1.8         | 13        | -17.6        | 43        | 4.5         | 27        | -2.9         | 31        | 6.2          | 24        |
| District of Columbia | -8.5         | --        | 9.6          | --        | 10.4        | --        | -2.7         | --        | 0.6          | --        |

<sup>68</sup> See Note 7 in Methodology.

**Table A-3**  
**State and Local Wages as a Percent Above or Below Private Sector Wages and Salaries per Job by State**  
**and Rank: Selected Calendar Years<sup>69</sup>**

|                      | 1970         |           | 1980         |           | 1990        |           | 2000         |           | 2009         |           |
|----------------------|--------------|-----------|--------------|-----------|-------------|-----------|--------------|-----------|--------------|-----------|
|                      | Difference   | Rank      | Difference   | Rank      | Difference  | Rank      | Difference   | Rank      | Difference   | Rank      |
| <b>U.S. Average</b>  | <b>-2.9%</b> | <b>--</b> | <b>-9.6%</b> | <b>--</b> | <b>0.1%</b> | <b>--</b> | <b>-8.3%</b> | <b>--</b> | <b>-4.0%</b> | <b>--</b> |
| <b>State</b>         |              |           |              |           |             |           |              |           |              |           |
| <b>Alabama</b>       | -8.1%        | 37        | -12.8%       | 35        | -3.7%       | 35        | -1.3%        | 15        | -0.7%        | 23        |
| Alaska               | 0.5          | 10        | 7.0          | 3         | 17.5        | 2         | 8.7          | 3         | -0.5         | 21        |
| Arizona              | -4.3         | 25        | -8.6         | 21        | 9.0         | 6         | -6.9         | 27        | -0.4         | 20        |
| Arkansas             | -4.8         | 27        | -12.1        | 31        | -1.3        | 29        | -3.0         | 20        | -2.5         | 26        |
| California           | 13.5         | 2         | 0.6          | 5         | 8.4         | 8         | -6.3         | 26        | 4.2          | 9         |
| Colorado             | -7.7         | 35        | -10.0        | 24        | -1.8        | 30        | -17.2        | 47        | -10.1        | 41        |
| Connecticut          | -0.5         | 11        | -12.5        | 34        | -0.5        | 25        | -13.8        | 42        | -8.5         | 38        |
| Delaware             | -10.5        | 43        | -16.0        | 41        | -4.3        | 38        | -9.7         | 34        | -0.2         | 18        |
| <b>Florida</b>       | 0.8          | 9         | -4.8         | 11        | 8.9         | 7         | 6.0          | 5         | 8.8          | 4         |
| <b>Georgia</b>       | -5.1         | 28        | -13.6        | 37        | -5.1        | 40        | -15.6        | 45        | -14.4        | 48        |
| Hawaii               | 27.0         | 1         | 14.8         | 1         | 11.1        | 5         | 7.4          | 4         | 14.4         | 3         |
| Idaho                | -14.6        | 48        | -16.5        | 42        | -8.0        | 45        | -8.8         | 31        | -4.4         | 31        |
| Illinois             | -10.2        | 42        | -14.7        | 39        | -7.3        | 44        | -9.8         | 35        | -6.7         | 36        |
| Indiana              | -13.2        | 47        | -21.2        | 49        | -4.1        | 37        | -9.3         | 32        | -8.4         | 37        |
| Iowa                 | -4.8         | 26        | -11.8        | 28        | 3.9         | 13        | 1.5          | 8         | 5.1          | 8         |
| Kansas               | -7.7         | 36        | -19.1        | 45        | -9.9        | 48        | -16.9        | 46        | -15.1        | 49        |
| Kentucky             | -5.2         | 30        | -13.6        | 36        | -0.8        | 26        | -7.7         | 30        | -3.7         | 28        |
| Louisiana            | -10.1        | 41        | -20.9        | 47        | -13.5       | 50        | -9.4         | 33        | -3.7         | 27        |
| Maine                | -2.5         | 19        | -8.0         | 18        | 3.1         | 16        | -1.7         | 17        | 0.2          | 17        |
| Maryland             | 2.6          | 6         | -2.4         | 7         | 12.4        | 4         | -0.5         | 12        | 2.5          | 13        |
| Massachusetts        | 9.9          | 3         | 2.2          | 4         | -0.1        | 23        | -18.2        | 49        | -11.4        | 46        |
| Michigan             | -8.9         | 40        | -11.9        | 29        | -1.9        | 32        | -11.5        | 39        | 3.6          | 11        |
| Minnesota            | -3.9         | 23        | -3.5         | 8         | 1.7         | 20        | -10.1        | 36        | -4.6         | 32        |
| <b>Mississippi</b>   | -8.6         | 39        | -14.3        | 38        | -3.7        | 36        | -3.8         | 21        | -0.9         | 24        |
| Missouri             | -12.4        | 46        | -15.6        | 40        | -6.3        | 42        | -14.4        | 44        | -11.8        | 47        |
| Montana              | -8.4         | 38        | -9.6         | 23        | -0.1        | 24        | 4.1          | 6         | 5.8          | 7         |
| Nebraska             | -4.0         | 24        | -12.0        | 30        | 5.3         | 9         | -2.8         | 18        | 0.2          | 16        |
| Nevada               | 0.8          | 8         | 0.4          | 6         | 15.4        | 3         | 15.0         | 2         | 21.5         | 1         |
| New Hampshire        | -5.4         | 31        | -11.8        | 27        | -4.9        | 39        | -20.2        | 50        | -10.8        | 42        |
| New Jersey           | -3.8         | 22        | -10.5        | 25        | 0.4         | 22        | -1.5         | 16        | 4.1          | 10        |
| New Mexico           | -1.8         | 16        | -8.3         | 20        | -2.7        | 33        | -0.4         | 11        | 1.4          | 14        |
| New York             | -1.0         | 15        | -4.6         | 9         | 2.5         | 17        | -12.1        | 40        | -11.3        | 45        |
| North Carolina       | 8.1          | 4         | -4.8         | 10        | 3.3         | 15        | -4.1         | 22        | -0.6         | 22        |
| North Dakota         | -12.0        | 44        | -12.4        | 33        | -1.9        | 31        | -7.0         | 28        | -9.5         | 40        |
| Ohio                 | -15.5        | 49        | -20.0        | 46        | -5.2        | 41        | -3.0         | 19        | -0.3         | 19        |
| Oklahoma             | -12.4        | 45        | -21.0        | 48        | -8.5        | 47        | -5.0         | 25        | -9.5         | 39        |
| Oregon               | -0.7         | 14        | -5.9         | 13        | 1.8         | 18        | -4.8         | 23        | 2.5          | 12        |
| Pennsylvania         | -2.0         | 18        | -7.1         | 15        | 5.2         | 10        | 0.1          | 9         | -4.1         | 29        |
| Rhode Island         | 1.1          | 7         | 10.4         | 2         | 19.7        | 1         | 20.9         | 1         | 18.7         | 2         |
| South Carolina       | -2.0         | 17        | -7.1         | 14        | 3.8         | 14        | 2.3          | 7         | 8.3          | 5         |
| South Dakota         | -2.9         | 20        | -7.2         | 16        | -1.0        | 27        | -4.8         | 24        | -6.5         | 35        |
| <b>Tennessee</b>     | -3.1         | 21        | -11.5        | 26        | -3.1        | 34        | -10.5        | 38        | -10.8        | 43        |
| Texas                | -5.2         | 29        | -18.4        | 44        | -8.3        | 46        | -17.5        | 48        | -11.3        | 44        |
| Utah                 | -6.2         | 34        | -12.3        | 32        | -7.1        | 43        | -10.2        | 37        | -6.4         | 34        |
| Vermont              | -5.8         | 32        | -8.1         | 19        | 4.6         | 12        | -0.8         | 13        | 6.6          | 6         |
| Virginia             | 5.2          | 5         | -9.0         | 22        | 1.8         | 19        | -13.0        | 41        | -15.2        | 50        |
| Washington           | -6.1         | 33        | -5.2         | 12        | 1.7         | 21        | -13.9        | 43        | -4.3         | 30        |
| West Virginia        | -23.3        | 50        | -25.7        | 50        | -12.9       | 49        | -1.0         | 14        | -6.2         | 33        |
| Wisconsin            | -0.6         | 12        | -7.6         | 17        | 5.1         | 11        | 0.0          | 10        | -1.7         | 25        |
| Wyoming              | -0.6         | 13        | -17.1        | 43        | -1.1        | 28        | -7.4         | 29        | 0.7          | 15        |
| District of Columbia | -7.7         | --        | 13.9         | --        | 6.8         | --        | -4.9         | --        | -4.7         | --        |

<sup>69</sup> See Note 8 in Methodology.

**Table A-4**  
**State and Local Benefits as a Percent Above or Below Private Sector Benefits per Job by State and Rank: Selected Calendar Years<sup>70</sup>**

|                      | 1970         |           | 1980         |           | 1990         |           | 2000         |           | 2009         |           |
|----------------------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|
|                      | Difference   | Rank      | Difference   | Rank      | Difference   | Rank      | Difference   | Rank      | Difference   | Rank      |
| <b>U.S. Average</b>  | <b>-1.0%</b> | <b>--</b> | <b>2.5%</b>  | <b>--</b> | <b>29.6%</b> | <b>--</b> | <b>25.6%</b> | <b>--</b> | <b>45.0%</b> | <b>--</b> |
| State                |              |           |              |           |              |           |              |           |              |           |
| <b>Alabama</b>       | <b>5.5%</b>  | <b>6</b>  | <b>10.5%</b> | <b>7</b>  | <b>34.3%</b> | <b>19</b> | <b>43.2%</b> | <b>22</b> | <b>64.3%</b> | <b>12</b> |
| Alaska               | -35.0        | 47        | -11.4        | 30        | 1.8          | 49        | 6.1          | 47        | 27.4         | 44        |
| Arizona              | -1.9         | 9         | -1.1         | 19        | 14.4         | 43        | 12.0         | 40        | 51.7         | 23        |
| Arkansas             | -6.9         | 13        | 3.6          | 13        | 36.4         | 13        | 59.1         | 7         | 63.8         | 13        |
| California           | 5.8          | 5         | 26.6         | 3         | 28.7         | 30        | 3.2          | 49        | 52.3         | 22        |
| Colorado             | -27.0        | 41        | -21.5        | 42        | 20.9         | 37        | 9.1          | 43        | 15.1         | 49        |
| Connecticut          | -16.8        | 26        | 6.6          | 8         | 30.9         | 27        | 6.5          | 46        | 102.2        | 3         |
| Delaware             | -47.0        | 50        | 1.2          | 16        | 26.8         | 33        | 17.2         | 38        | 29.5         | 41        |
| <b>Florida</b>       | <b>-17.4</b> | <b>27</b> | <b>20.6</b>  | <b>4</b>  | <b>78.5</b>  | <b>2</b>  | <b>75.1</b>  | <b>2</b>  | <b>66.8</b>  | <b>9</b>  |
| <b>Georgia</b>       | <b>-2.6</b>  | <b>10</b> | <b>-5.0</b>  | <b>22</b> | <b>34.9</b>  | <b>17</b> | <b>32.4</b>  | <b>25</b> | <b>27.4</b>  | <b>43</b> |
| Hawaii               | 37.9         | 2         | 33.8         | 2         | 7.0          | 46        | 3.6          | 48        | 83.3         | 4         |
| Idaho                | -20.3        | 32        | -12.0        | 31        | 22.2         | 35        | 34.8         | 24        | 56.2         | 18        |
| Illinois             | -26.1        | 40        | -20.3        | 38        | 3.9          | 47        | 26.5         | 34        | 36.4         | 35        |
| Indiana              | -27.4        | 42        | -22.7        | 43        | 32.4         | 23        | 59.1         | 8         | 50.4         | 25        |
| Iowa                 | -17.7        | 29        | -6.6         | 25        | 33.0         | 21        | 47.7         | 17        | 53.4         | 21        |
| Kansas               | -22.2        | 35        | -15.8        | 35        | 0.8          | 50        | 8.7          | 44        | 31.8         | 38        |
| Kentucky             | -21.9        | 34        | -21.1        | 40        | 32.4         | 24        | 43.9         | 21        | 43.7         | 29        |
| Louisiana            | -19.3        | 31        | -32.4        | 49        | 10.1         | 44        | 30.2         | 30        | 45.9         | 28        |
| Maine                | -22.2        | 36        | -5.2         | 23        | 26.7         | 34        | 53.3         | 11        | 60.4         | 15        |
| Maryland             | 1.9          | 7         | 14.2         | 6         | 64.2         | 3         | 51.1         | 14        | 58.9         | 16        |
| Massachusetts        | -25.3        | 39        | -12.5        | 33        | 19.5         | 39        | 17.3         | 37        | 14.7         | 50        |
| Michigan             | -8.3         | 14        | -13.8        | 34        | 18.7         | 40        | 27.3         | 33        | 51.1         | 24        |
| Minnesota            | -8.6         | 15        | -1.2         | 20        | 29.3         | 29        | 31.2         | 28        | 34.3         | 37        |
| <b>Mississippi</b>   | <b>-13.2</b> | <b>21</b> | <b>-4.5</b>  | <b>21</b> | <b>37.7</b>  | <b>11</b> | <b>57.1</b>  | <b>9</b>  | <b>66.5</b>  | <b>10</b> |
| Missouri             | -25.3        | 38        | -17.5        | 36        | 17.7         | 41        | 32.2         | 26        | 42.8         | 30        |
| Montana              | -17.5        | 28        | -5.6         | 24        | 33.8         | 20        | 68.1         | 5         | 72.9         | 5         |
| Nebraska             | -42.7        | 49        | -27.7        | 48        | 22.1         | 36        | 31.7         | 27        | 37.4         | 34        |
| Nevada               | -27.7        | 43        | -9.8         | 28        | 79.7         | 1         | 87.3         | 1         | 102.3        | 2         |
| New Hampshire        | -30.2        | 45        | -27.6        | 47        | 8.8          | 45        | 10.6         | 42        | 31.6         | 39        |
| New Jersey           | 1.7          | 8         | -25.2        | 46        | 26.9         | 32        | -2.0         | 50        | 39.2         | 33        |
| New Mexico           | -15.6        | 25        | -24.9        | 45        | 20.5         | 38        | 44.3         | 20        | 67.1         | 8         |
| New York             | 81.1         | 1         | 87.4         | 1         | 35.4         | 16        | 13.6         | 39        | 71.8         | 6         |
| North Carolina       | 22.7         | 3         | 5.4          | 9         | 38.2         | 9         | 31.2         | 29        | 23.7         | 47        |
| North Dakota         | -28.5        | 44        | -18.8        | 37        | 35.9         | 15        | 53.0         | 12        | 49.5         | 27        |
| Ohio                 | -11.5        | 17        | -21.2        | 41        | 27.5         | 31        | 28.9         | 31        | 27.8         | 42        |
| Oklahoma             | -17.9        | 30        | 0.4          | 17        | 37.1         | 12        | 74.9         | 3         | 65.1         | 11        |
| Oregon               | -13.0        | 20        | -12.5        | 32        | 36.4         | 14        | 50.6         | 15        | 50.2         | 26        |
| Pennsylvania         | -14.4        | 22        | 1.9          | 14        | 59.6         | 4         | 22.2         | 35        | 34.5         | 36        |
| Rhode Island         | -5.3         | 11        | 4.7          | 10        | 53.9         | 6         | 56.1         | 10        | 103.9        | 1         |
| South Carolina       | 11.3         | 4         | -11.1        | 29        | 32.6         | 22        | 48.0         | 16        | 55.2         | 19        |
| South Dakota         | -33.3        | 46        | -6.6         | 26        | 37.9         | 10        | 51.5         | 13        | 57.4         | 17        |
| <b>Tennessee</b>     | <b>-9.3</b>  | <b>16</b> | <b>4.3</b>   | <b>11</b> | <b>30.7</b>  | <b>28</b> | <b>28.0</b>  | <b>32</b> | <b>41.4</b>  | <b>31</b> |
| Texas                | -22.3        | 37        | -23.4        | 44        | 2.3          | 48        | 8.1          | 45        | 17.1         | 48        |
| Utah                 | -12.5        | 19        | 3.9          | 12        | 42.6         | 8         | 63.5         | 6         | 60.4         | 14        |
| Vermont              | -21.5        | 33        | 0.0          | 18        | 31.3         | 25        | 39.2         | 23        | 40.1         | 32        |
| Virginia             | -14.8        | 24        | -7.4         | 27        | 55.2         | 5         | 46.7         | 18        | 54.0         | 20        |
| Washington           | -14.7        | 23        | 1.5          | 15        | 31.2         | 26        | 10.6         | 41        | 24.9         | 46        |
| West Virginia        | -39.6        | 48        | -40.9        | 50        | 15.8         | 42        | 71.0         | 4         | 70.2         | 7         |
| Wisconsin            | -5.3         | 12        | 15.9         | 5         | 45.7         | 7         | 44.6         | 19        | 27.1         | 45        |
| Wyoming              | -12.4        | 18        | -20.8        | 39        | 34.7         | 18        | 21.0         | 36        | 30.3         | 40        |
| District of Columbia | -16.7        | --        | -17.1        | --        | 32.1         | --        | 11.3         | --        | 30.5         | --        |

<sup>70</sup> See Note 9 in Methodology.

**Table A-5**  
**Budget Savings if Alabama's State and Local Private/Public Compensation Ratio Equaled the U.S.**  
**Average: Calendar/Fiscal Years 1969 to 2009<sup>71</sup>**

| Calendar Year | Budget Compensation Savings |                        | Budget Employment Savings |                         |
|---------------|-----------------------------|------------------------|---------------------------|-------------------------|
|               | Nominal Dollars             | Real 2009 Dollars      | Nominal Dollars           | Real 2009 Dollars       |
| 1969          | (\$38,783,530)              | (\$183,962,483)        | \$66,224,481              | \$314,123,545           |
| 1970          | (39,115,265)                | (176,247,006)          | 66,459,833                | 299,457,169             |
| 1971          | (53,463,727)                | (229,422,072)          | 67,312,168                | 288,848,121             |
| 1972          | (57,358,861)                | (235,957,654)          | 65,212,024                | 268,263,280             |
| 1973          | (53,227,454)                | (207,462,916)          | 59,519,730                | 231,988,116             |
| 1974          | (37,274,053)                | (133,225,967)          | 61,648,792                | 220,346,842             |
| 1975          | (63,185,922)                | (206,281,513)          | 90,737,639                | 296,228,922             |
| 1976          | (62,983,358)                | (194,454,577)          | 126,735,548               | 391,282,840             |
| 1977          | (78,922,416)                | (229,089,010)          | 185,950,335               | 539,760,189             |
| 1978          | (26,891,267)                | (72,941,057)           | 290,399,621               | 787,692,715             |
| 1979          | (45,001,695)                | (112,694,943)          | 409,022,938               | 1,024,290,691           |
| 1980          | (50,880,037)                | (116,739,951)          | 489,182,860               | 1,122,388,789           |
| 1981          | (58,863,131)                | (123,418,808)          | 523,698,174               | 1,098,042,242           |
| 1982          | (102,602,934)               | (202,771,529)          | 601,484,790               | 1,188,698,861           |
| 1983          | (96,516,694)                | (183,504,761)          | 639,805,363               | 1,216,445,830           |
| 1984          | (199,596,517)               | (365,735,101)          | 701,801,595               | 1,285,961,708           |
| 1985          | (88,159,520)                | (156,797,013)          | 733,501,440               | 1,304,576,459           |
| 1986          | (69,240,505)                | (120,470,545)          | 719,914,625               | 1,252,568,947           |
| 1987          | (165,003,424)               | (279,285,168)          | 717,554,278               | 1,214,533,991           |
| 1988          | (144,874,135)               | (237,062,441)          | 769,667,446               | 1,259,432,841           |
| 1989          | (131,855,838)               | (207,908,130)          | 858,822,348               | 1,354,177,044           |
| 1990          | (147,720,109)               | (224,236,397)          | 891,066,877               | 1,352,623,058           |
| 1991          | (52,664,330)                | (77,217,818)           | 923,934,156               | 1,354,696,428           |
| 1992          | (132,435,663)               | (189,677,312)          | 935,114,760               | 1,339,292,234           |
| 1993          | (209,784,247)               | (293,985,446)          | 1,001,903,971             | 1,404,038,627           |
| 1994          | (95,913,063)                | (131,641,330)          | 1,068,227,999             | 1,466,150,184           |
| 1995          | 42,652,312                  | 57,344,402             | 989,300,794               | 1,330,077,079           |
| 1996          | 62,552,212                  | 82,530,101             | 1,017,585,428             | 1,342,581,267           |
| 1997          | 222,309,626                 | 288,207,969            | 1,035,519,937             | 1,342,474,921           |
| 1998          | 393,978,358                 | 505,071,160            | 1,129,483,927             | 1,447,972,319           |
| 1999          | 499,194,885                 | 630,670,366            | 1,266,916,960             | 1,600,591,284           |
| 2000          | 864,711,231                 | 1,069,261,752          | 1,282,607,608             | 1,586,013,004           |
| 2001          | 793,460,556                 | 959,445,355            | 1,316,026,396             | 1,591,327,260           |
| 2002          | 449,472,122                 | 534,889,050            | 1,421,605,663             | 1,691,765,218           |
| 2003          | 166,288,994                 | 193,713,716            | 1,661,019,671             | 1,934,958,440           |
| 2004          | 257,655,461                 | 291,866,985            | 1,681,294,300             | 1,904,536,769           |
| 2005          | 368,712,998                 | 404,175,814            | 1,706,265,422             | 1,870,374,030           |
| 2006          | 661,975,573                 | 702,714,799            | 1,851,490,250             | 1,965,434,455           |
| 2007          | 1,116,045,206               | 1,150,870,108          | 2,018,290,411             | 2,081,268,833           |
| 2008          | 1,223,268,692               | 1,234,758,168          | 2,197,632,601             | 2,218,273,729           |
| 2009          | 945,073,201                 | 945,073,201            | 2,385,203,248             | 2,385,203,248           |
| <b>Total</b>  | <b>\$5,765,033,735</b>      | <b>\$4,158,402,002</b> | <b>\$36,025,146,405</b>   | <b>\$50,168,761,531</b> |

<sup>71</sup> See Note 11 in Methodology.

**Table A-6**  
**Funded Ratios of Alabama's Pension System: FY 2003-2009**  
**(Billions of Dollars)<sup>72</sup>**

|      | Teachers' Retirement System (TRS) |                           |                                     |                        | Employees' Retirement System (ERS) |                           |                                     |                        | Judicial Retirement Fund (JRF)  |                           |                                     |                        | Total                               |
|------|-----------------------------------|---------------------------|-------------------------------------|------------------------|------------------------------------|---------------------------|-------------------------------------|------------------------|---------------------------------|---------------------------|-------------------------------------|------------------------|-------------------------------------|
|      | Actuarial Value of Assets (AVA)   | Actuarial Liability (AAL) | Unfunded Actuarial Liability (UAAL) | Funded Ratio (AVA/AAL) | Actuarial Value of Assets (AVA)    | Actuarial Liability (AAL) | Unfunded Actuarial Liability (UAAL) | Funded Ratio (AVA/AAL) | Actuarial Value of Assets (AVA) | Actuarial Liability (AAL) | Unfunded Actuarial Liability (UAAL) | Funded Ratio (AVA/AAL) | Unfunded Actuarial Liability (UAAL) |
| 2003 | \$18.110                          | \$19.358                  | -\$1.247                            | 93.6%                  | \$8.313                            | \$9.124                   | -\$0.812                            | 91.1%                  | \$0.247                         | \$0.285                   | -\$0.038                            | 86.6%                  | -\$2.097                            |
| 2004 | 18.704                            | 20.886                    | -2.182                              | 89.6                   | 8.564                              | 9.546                     | -0.983                              | 89.7                   | 0.252                           | 0.300                     | -0.048                              | 84.0                   | -3.213                              |
| 2005 | 19.248                            | 23.027                    | -3.779                              | 83.6                   | 8.935                              | 10.635                    | -1.700                              | 84.0                   | 0.256                           | 0.300                     | -0.044                              | 85.5                   | -5.522                              |
| 2006 | 19.821                            | 23.945                    | -4.124                              | 82.8                   | 9.288                              | 11.458                    | -2.170                              | 81.1                   | 0.261                           | 0.302                     | -0.041                              | 86.4                   | -6.335                              |
| 2007 | 20.651                            | 25.972                    | -5.321                              | 79.5                   | 9.771                              | 12.370                    | -2.599                              | 79.0                   | 0.265                           | 0.316                     | -0.051                              | 83.9                   | -7.971                              |
| 2008 | 20.812                            | 26.804                    | -5.992                              | 77.6                   | 9.906                              | 13.079                    | -3.173                              | 75.7                   | 0.259                           | 0.323                     | -0.064                              | 80.1                   | -9.229                              |
| 2009 | 20.582                            | 27.537                    | -6.955                              | 74.7                   | 9.928                              | 13.756                    | -3.828                              | 72.2                   | 0.253                           | 0.341                     | -0.088                              | 74.1                   | -10.871                             |

Actuarial valuation date for all years is September 30, except for TRS, 2003-2005 (June 30).

**Table A-7**  
**Schedule of Employer Pension Contributions: FY 2004-2009**  
**(Millions of Dollars)<sup>73</sup>**

| As of September 30 | Teachers' Retirement System (TRS) | Employees' Retirement System (ERS) | Judicial Retirement Fund (JRF) | Total      |
|--------------------|-----------------------------------|------------------------------------|--------------------------------|------------|
| 2004               | \$312.5                           | \$170.7                            | \$0.0090                       | \$483.20   |
| 2005               | 347.9                             | 195.8                              | 0.0089                         | 543.72     |
| 2006               | 434.2                             | 241.8                              | 0.0089                         | 675.95     |
| 2007               | 540.8                             | 277.3                              | 0.0093                         | 818.11     |
| 2008               | 730.0                             | 329.3                              | 0.0099                         | 1,059.34   |
| 2009               | 753.5                             | 451.1                              | 0.0103                         | 1,204.67   |
| Total              | \$3,118.9                         | \$1,666.0                          | \$0.0564                       | \$4,784.99 |

<sup>72</sup> "Comprehensive Annual Financial Report," The Retirement Systems of Alabama, various years.

<sup>73</sup> *Ibid.*

**Table A-8**  
**Alabama's Unfunded Retiree Health Care Liability: FY 2005-2009**  
**(Billions of Dollars)<sup>74</sup>**

|         | Public Education Employees' Health Insurance Plan (PEEHIP) |                                   |   |                        | State Employees' Health Insurance Plan (SEHIP) |                                   |   |                        | Total Unfunded Actuarial Accrued Liability (UAAL) |
|---------|--|-----------------------------------|---|------------------------|--|-----------------------------------|---|------------------------|---|
|         | 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) |   |
| 2005(a) | \$0.000  | \$14.612                          | -\$14.612                                   | 0.0%                   | \$0.000  | \$5.286                           | -\$5.286                                    | 0.0%                   | -\$19.898   |
| 2006(a) | 0.000  | 12.532                            | -12.532                                     | 0.0                    | 0.000  | 3.104                             | -3.104                                      | 0.0                    | -15.636   |
| 2007    | 0.401  | 12.965                            | -12.565                                     | 3.1                    | 0.000  | 2.985                             | -2.985                                      | 0.0                    | -15.549   |
| 2008    | 0.580  | 13.224                            | -12.645                                     | 4.4                    | 0.052  | 3.003                             | -2.951                                      | 1.7                    | -15.596   |
| 2009    | 0.670  | 11.916                            | -11.246                                     | 5.6                    | 0.089  | 4.142                             | -4.053                                      | 2.1                    | -15.299   |

(a) The discount rate was changed from 4 percent for the September 30, 2005 actuarial valuation to 5 percent for the September 30, 2006 valuation. The change in the discount rate was primarily responsible for the significant decrease in the actuarial accrued liability.

**Table A-9**  
**Schedule of Employer Retiree Health Care Contributions: FY 2007-2009**  
**(Millions of Dollars)**

| Actuarial Valuation Date as of September 30 | Public Education Employees' Health Insurance Plan (PEEHIP) |  |            | State Employees' Health Insurance Plan (SEHIP) |  |            |
|---|--|--|------------|--|--|------------|
|   | Annual Required Contribution                               | Actual Contribution (Employer and Employees) | Difference | Annual Required Contribution                   | Actual Contribution (Employer and Employees) | Difference |
| 2007  | \$1,086.4  | \$718.1                                      | \$368.3    | \$0.0  | \$0.0  | \$0.0      |
| 2008  | 1,086.4  | 503.0  | 583.4      | 343.7  | 137.5  | 206.2      |
| 2009  | 962.8  | 326.4  | 636.4      | 211.4  | 106.0  | 105.5      |

<sup>74</sup> "Alabama Public Education Employees' Health Insurance Plan Report of Actuary on the Retiree Medical Valuation," The Retirement Systems of Alabama, September 30, 2009, pp. 5, 7.

**Table A-10**  
**Pension Burdens by State and Rank: FY 2008**  
**(Billions of Dollars)<sup>75</sup>**

|                    | Reported<br>Pension<br>Liabilities | Minimum<br>Estimated<br>Pension<br>Liabilities | Maximum<br>Estimated<br>Pension<br>Liabilities | 2007<br>GDP       | Maximum<br>Estimated<br>Pension<br>Liabilities as<br>a Percent of<br>GDP | Rank      | Year Run<br>Out | Rank (a)  |
|--------------------|------------------------------------|--|--|-------------------|--|-----------|-----------------|-----------|
| <b>Alabama</b>     | <b>\$41.0</b>                      | <b>\$45.5</b>                                  | <b>\$78.8</b>                                  | <b>\$164.5</b>    | <b>47.9%</b>   | <b>10</b> | <b>2023</b>     | <b>12</b> |
| Alaska             | 14.5                               | 16.2   | 24.3   | 44.9              | 54.1   | 7         | --              | 46        |
| Arizona            | 40.6                               | 41.8   | 85.1   | 246.0             | 34.6   | 29        | 2029            | 27        |
| Arkansas           | 20.8                               | 22.8   | 38.3   | 95.1              | 40.3   | 20        | 2030            | 28        |
| California         | 484.2                              | 493.4  | 805.7  | 1,801.8           | 44.7   | 15        | 2030            | 28        |
| Colorado           | 55.6                               | 59.3   | 105.4  | 235.8             | 44.7   | 16        | 2022            | 8         |
| Connecticut        | 42.8                               | 50.4   | 80.7   | 212.3             | 38.0   | 25        | 2019            | 2         |
| Delaware           | 6.9                                | 8.0  | 12.0   | 61.5              | 19.5   | 49        | 2035            | 36        |
| <b>Florida</b>     | <b>124.1</b>                       | <b>137.7</b>                                   | <b>213.7</b>                                   | <b>741.9</b>      | <b>28.8</b>  | <b>40</b> | <b>--</b>       | <b>46</b> |
| <b>Georgia</b>     | <b>75.2</b>                        | <b>81.4</b>                                    | <b>137.3</b>                                   | <b>391.2</b>      | <b>35.1</b>  | <b>28</b> | <b>2047</b>     | <b>45</b> |
| Hawaii             | 16.6                               | 18.4   | 28.1   | 62.0              | 45.3   | 12        | 2020            | 5         |
| Idaho              | 11.9                               | 11.6   | 21.0   | 52.1              | 40.3   | 19        | 2043            | 44        |
| Illinois           | 151.1                              | 177.7  | 284.8  | 617.4             | 46.1   | 11        | 2018            | 1         |
| Indiana            | 36.4                               | 38.9   | 62.4   | 249.2             | 25.0   | 45        | 2019            | 2         |
| Iowa               | 24.5                               | 23.4   | 42.3   | 129.9             | 32.6   | 34        | 2035            | 36        |
| Kansas             | 20.1                               | 20.2   | 36.0   | 117.0             | 30.8   | 37        | 2022            | 8         |
| Kentucky           | 43.6                               | 43.0   | 74.5   | 152.1             | 49.0   | 9         | 2022            | 8         |
| Louisiana          | 35.7                               | 40.7   | 61.4   | 207.4             | 29.6   | 39        | 2020            | 5         |
| Maine              | 13.7                               | 14.9   | 24.0   | 48.0              | 50.0   | 8         | 2026            | 21        |
| Maryland           | 50.2                               | 56.5   | 88.2   | 264.4             | 33.4   | 31        | 2024            | 16        |
| Massachusetts      | 55.4                               | 63.3   | 96.7   | 352.2             | 27.5   | 41        | 2026            | 21        |
| Michigan           | 69.9                               | 77.1   | 118.4  | 379.9             | 31.2   | 36        | 2023            | 12        |
| Minnesota          | 57.9                               | 69.2   | 109.9  | 252.5             | 43.5   | 18        | 2023            | 12        |
| <b>Mississippi</b> | <b>29.3</b>                        | <b>32.1</b>                                    | <b>51.8</b>                                    | <b>87.7</b>       | <b>59.1</b>  | <b>4</b>  | <b>2023</b>     | <b>12</b> |
| Missouri           | 51.3                               | 59.0   | 88.6   | 229.0             | 38.7   | 23        | 2025            | 20        |
| Montana            | 8.6                                | 9.9  | 15.4   | 34.3              | 44.9   | 14        | 2027            | 24        |
| Nebraska           | 7.9                                | 7.9  | 14.1   | 80.4              | 17.5   | 50        | 2032            | 33        |
| Nevada             | 24.0                               | 26.5   | 44.0   | 129.3             | 34.0   | 30        | --              | 46        |
| New Hampshire      | 7.8                                | 9.0  | 14.2   | 57.8              | 24.6   | 46        | 2022            | 8         |
| New Jersey         | 123.4                              | 140.0  | 204.8  | 461.3             | 44.4   | 17        | 2019            | 2         |
| New Mexico         | 26.7                               | 29.6   | 45.0   | 75.2              | 59.8   | 3         | 2026            | 21        |
| New York           | 227.0                              | 248.4  | 356.2  | 1,105.0           | 32.2   | 35        | --              | 46        |
| North Carolina     | 68.7                               | 71.6   | 117.0  | 390.5             | 30.0   | 38        | --              | 46        |
| North Dakota       | 3.6                                | 4.1  | 6.7  | 28.5              | 23.5   | 48        | 2041            | 43        |
| Ohio               | 190.9                              | 215.1  | 332.5  | 462.5             | 71.9   | 1         | 2030            | 28        |
| Oklahoma           | 32.3                               | 35.6   | 54.7   | 136.4             | 40.1   | 21        | 2020            | 5         |
| Oregon             | 56.6                               | 63.2   | 90.4   | 158.3             | 57.1   | 6         | 2039            | 42        |
| Pennsylvania       | 104.1                              | 124.3  | 190.5  | 533.2             | 35.7   | 27        | 2024            | 16        |
| Rhode Island       | 12.4                               | 14.8   | 27.1   | 46.7              | 58.0   | 5         | 2027            | 24        |
| South Carolina     | 39.7                               | 41.1   | 68.4   | 151.7             | 45.1   | 13        | 2024            | 16        |
| South Dakota       | 7.1                                | 7.2  | 13.6   | 35.2              | 38.6   | 24        | 2031            | 32        |
| <b>Tennessee</b>   | <b>34.7</b>                        | <b>36.7</b>                                    | <b>58.1</b>                                    | <b>245.2</b>      | <b>23.7</b>  | <b>47</b> | <b>2035</b>     | <b>36</b> |
| Texas              | 179.0                              | 190.3  | 313.5  | 1,148.5           | 27.3   | 42        | 2037            | 40        |
| Utah               | 20.4                               | 23.6   | 38.5   | 105.6             | 36.5   | 26        | 2036            | 39        |
| Vermont            | 3.8                                | 4.3  | 6.7  | 24.6              | 27.2   | 43        | 2028            | 26        |
| Virginia           | 61.6                               | 65.6   | 100.1  | 384.1             | 26.1   | 44        | 2033            | 34        |
| Washington         | 58.9                               | 66.4   | 101.1  | 310.3             | 32.6   | 33        | 2033            | 34        |
| West Virginia      | 12.3                               | 13.2   | 19.1   | 57.9              | 33.0   | 32        | 2024            | 16        |
| Wisconsin          | 82.9                               | 91.4   | 153.3  | 233.4             | 65.7   | 2         | 2038            | 41        |
| Wyoming            | 7.0                                | 7.8  | 12.3   | 31.5              | 39.0   | 22        | 2030            | 28        |
| <b>Total</b>       | <b>\$2,975.1</b>                   | <b>\$3,250.5</b>                               | <b>\$5,167.1</b>                               | <b>\$13,623.2</b> | <b>37.9%</b>   | <b>--</b> | <b>--</b>       | <b>--</b> |

(a) States with the same date are ranked the same.

<sup>75</sup> Novy-Marx and Rauh, "Public Pension Promises: How Big Are They and What Are They Worth?"