

# Other Post Employment Benefits-The Other Elephant in the Room

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## ABSTRACT

The governments of the fifty states of the United States have made promises to past and present employees regarding retirement benefits-predominately pensions and healthcare coverage. The issues surrounding the pension obligations made to these employees have been well examined but the obligations due to promises of healthcare coverage have not received as much attention. There is great variance among the OPEB liability reported by the states. This study examines reasons for the variance. The future payment of healthcare obligations, like pensions, will put extreme stress on states in the future if the impact of these promises is not understood now. Understanding the influence healthcare assumptions have on the reported liabilities is an important step to understanding these liabilities.

**Keywords:** Post-Employment Benefits (OPEB), Great Variance Among, Retirement Benefits, Comprehensive Annual Financial Reports (CAFRs)

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## 1. INTRODUCTION

In 2004, GASB 45 Accounting and Financial Reporting by Employers for Post-Employment Benefits Other Than Pensions required state and local governments to report their non-pension Post-Employment Benefits (OPEB) as liabilities on their financial statements starting after December, 2006. These liabilities are dominated by healthcare benefits granted to retirees. Up until this point, state and local governments reported the cost of these benefits on a “pay as you go” basis. GASB 45 required governments, for the first time, to report the value of healthcare promises made to retirees. The purpose of this study is to examine the OPEB liabilities reported by the states. The OPEB liabilities vary widely among the states; this study examines potential causes for the variance. States reported a total of over \$638 billion in OPEB liabilities in 2009 (PCT, 2011). It is important that the numbers reported by the states are accurate and reliable so good decisions regarding funding and future benefits can be made.

### 1.1. Why OPEBS are Important

During 2009, states reported an average OPEB liability of over \$9 billion and growing. According to

PricewaterhouseCoopers, the rate of healthcare inflation in 2008 has been close to 10% and shows no signs of slowing down (PWC, 2008). Changes in the healthcare laws have added uncertainty to the future of healthcare in the United States. States are examining the retirement benefits promised to their employees to determine if changes are necessary. The recent upheaval in Wisconsin shows how important benefits are to state workers and how difficult it is to change them.

Public attention has focused on the status of states' unfunded pensions. During 2009, a \$660 billion gap between pension liabilities and pension assets existed (PCT, 2011). Less widely discussed is the funding concerns caused by OPEBS. At the current time, funding for OPEBs is not required which means there is great potential for the gap between obligations to retirees and the ability to pay for them to widen. In fact, in 2009, only \$31 billion had been contributed towards the \$638 billion in OPEB liability (PCT, 2011). For some states, the future financial burden for OPEBs will be minimal; for example, Nebraska does not offer retirees healthcare benefits. For other states these large, unfunded liabilities will become a greater problem in the future. For example, New York has over \$56 billion in OPEB liabilities, none of which are funded. The requirements for governments to report

OPEB liabilities may provide a wake-up call to many states to the financial burden the retirement benefits promised to past and present employees will cause to future generations.

This study examines the OPEB liabilities reported by state governments in order to understand differences in the liability among the states and underlying causes for the differences. The magnitude of these liabilities and the financial stresses on the states makes it imperative that the reported numbers for the OPEB liabilities are accurate and reliable. As more and more states are faced with crucial decisions about the ability to pay current and future commitments while examining if and how commitments to their employees should be changed, an understanding of how the numbers are calculated and how assumptions affect the calculations is necessary for good decision making.

## 2. MATERIALS AND METHODS

### 2.1. Data

The 2009 Comprehensive Annual Financial Reports (CAFRs) of the 50 states are examined to determine the OPEB assumptions made when calculating the OPEB liability. Not all states report information regarding their OPEB in their CAFR. For example, Nebraska does not report OPEB information because they do not offer an OPEB plan. Thus Nebraska is not included in the sample. Other states do not report their OPEB data either because they are multi-employer plans and currently are not required to report the numbers or they created an independent trust fund that issues its own financial statements. Requests for information were made to any state's OPEB plan that did not report actuarial assumptions in their CAFR. Four states (Arizona, New Jersey, Oklahoma and South Carolina) did not respond and therefore are not included in the sample. Forty-five states are included in the sample.

Of the forty-five states examined, the reported OPEB liability varies widely from the \$67 million reported by South Dakota to the \$69 billion reported by California. However, these numbers may be misleading. States with large numbers of potential retirees will have larger liabilities because a larger number of people are receiving coverage. The variable potential retirees is calculated as the number of state employees who are currently retired plus the number of current full time employees which represents the number of people covered by the plan. Using the total number of past and present employees to scale the OPEB liability will allow

a better comparison between states by controlling for size. The importance of scaling is exhibited in **Table 1**.

### 2.2. Variables

In 2009, variations among the OPEB liabilities per potential retiree reported by the states are large. This study examines the potential sources of the variation by examining five factors. The first factor is the liability itself and the underlying assumptions used to calculate the liability. The second factor examined is economies of scale. The third factor is the states' ability to pay while the fourth factor is the cost of healthcare faced by the individual states. The fifth factor is the level of benefits provided by the states to their employees. By examining these five factors, a better understanding of the variation in the reported liabilities and the underlying factors related to the liability should be achieved.

The first factor examined is the OPEB liability itself. Like pensions, the OPEB liability is based on actuarial assumptions. Two major assumptions used for both pensions and OPEB calculations are the discount rate and return on investment assumption. These two assumptions often are the same. Thirty-eight of the forty-five states reported a discount rate/return on investment rate. Of these thirty-eight, thirty-three assumed a rate between 4-5%. There is very little variance among the states regarding these assumptions. Since only thirty-eight states report this assumption and because there is little variance among the states regarding this assumption, it is not included in the analysis to preserve sample size (Including these assumptions in the analysis did not affect the results).

What makes the OPEB liability unique from the pension liability is the third assumption-healthcare inflation rate. The healthcare inflation rate assumption is the rate the state assumes healthcare costs are going to increase by in the future (no state assumes a decrease in costs) when calculating their OPEB liability. This healthcare inflation rate assumption is particularly interesting because there is little guidance as to how to determine the value. GASB 45 says that it should be partially based on past experience but the emphasis should be on long term future trends. This emphasis on "crystal ball gazing" makes the healthcare assumption particularly interesting to examine during these times of turbulence in the healthcare industry. States with higher assumed rates of healthcare cost increases should have higher liabilities. In fact, as Keating and Berman (2007) found, the assumptions made regarding healthcare inflation rates are a cost driver to the reported liability. The rate assumed by the states varies widely. The

healthcare inflation rate assumed by the states in 2009 varies from a rate of 6%, assumed by West Virginia to a rate of 13.6% assumed by Idaho. Some may question whether the healthcare rate assumed is important. Corporations, under FASB 106, have to report the impact of a 1% increase in the assumption on the reported OPEB liability. Looking at the 50 largest US corporations that provide healthcare to their retirees in 2009, a 1% increase in the healthcare assumptions corresponds to a \$215 million increase in the liability. This analysis may be understating the

importance of the healthcare assumption because the \$215 million is based on an average OPEB liability of \$3.4 billion for corporations while the states included in the sample have an average of \$9.1 billion in OPEB liability. Thus, the potential to overstate or understate the OPEB liability is great. All 45 states included in the sample reported their assumed rate of increase for future healthcare costs. It is expected that the healthcare assumption assumed by the states should be positively related to the OPEB liability per potential retiree.

**Table 1.** OPEB liabilities by state

-----2009 OPEB liability-----			-----2009 OPEB liab/potential retiree-----		
1	California	\$ 69,351,300,000	1	Connecticut	\$ 226,999
2	New York	\$ 56,286,000,000	2	Alaska	\$ 194,766
3	Texas	\$ 53,890,544,000	3	Delaware	\$ 135,230
4	Thiois	\$ 43,949,729,000	4	Iiionis	\$ 134,436
5	Ohio	\$ 43,360,893,000	5	Michigan	\$ 132,705
6	Michigan	\$ 41,419,600,000	6	Hawaii	\$ 126,685
7	North Carolina	\$ 33,814,515,000	7	North Carolina	\$ 194,786
8	Connecticut	\$ 20,284,637,000	8	West Virginia	\$ 135,230
9	Georgin	\$ 17,407,621,000	9	Georgia	\$ 134,436
10	Alaska	\$ 16,098,602,000	10	Ohio	\$ 132,705
11	Pennsylvania	\$ 15,166,300,000	11	New Hampshire	\$ 126,685
12	Maryland	\$ 14,919,073,000	12	Texas	\$ 118,786
13	Massachusetts	\$ 11,512,100,000	13	Maryland	\$ 99,525
14	Alabama	\$ 10,791,300,000	14	Alabama	\$ 98,906
15	Louisiana	\$ 8,754,555,000	15	Massachusetts	\$ 98,864
16	Hawaii	\$ 7,618,372,000	16	New York	\$ 98,276
17	Kentucky	\$ 6,362,640,000	17	Vermont	\$ 95,352
18	Wahington	\$ 5,830,000,000	18	California	\$ 94,795
19	West Virginia	\$ 5,636,000,000	19	Louisiana	\$ 92,128
20	Delaware	\$ 3,742,846,000	20	Maine	\$ 85,582
21	Florida	\$ 3,321,637,000	21	Kentucky	\$ 85,510
22	Missouri	\$ 3,226,105,000	22	Pennsylvania	\$ 72,394
23	New Hampshire	\$ 3,116,916,000	23	New Mexico	\$ 69,349
24	New Mexico	\$ 2,625,963,000	24	Nevada	\$ 60,414
25	Maine	\$ 2,326,834,000	25	Washington	\$ 54,125
26	Wisconsin	\$ 2,043,914,000	26	Virginia	\$ 53,694
27	Colorado	\$ 1,874,005,000	27	Rhode island	\$ 43,280
28	Nevada	\$ 1,865,879,000	28	Missouri	\$ 36,715
29	Arkansas	\$ 1,136,601,000	29	Arkansas	\$ 36,665
30	Tennessee	\$ 1,865,809,000	30	Colorado	\$ 27,489
31	Vermont	\$ 1,746,879,000	31	Wisconsin	\$ 22,021
32	Minnesota	\$ 1,628,934,000	32	Montana	\$ 19,515
33	Phode island	\$ 1,136,601,000	33	Idaho	\$ 17,478
34	Mississippi	\$ 788,189,000	34	Tennessee	\$ 14,563
35	Oregon	\$ 727,711,000	35	Florida	\$ 12,520
36	Montana	\$ 555,047,000	36	Mississippi	\$ 11,335
37	Lowa	\$ 540,894,000	37	Utah	\$ 11,146
38	Indiana	\$ 538,200,000	38	North Dakot	\$ 10,123
39	Idaho	\$ 524,859,000	39	Wyoring	\$ 6,645
40	Utah	\$ 493,746,000	40	Mnnesota	\$ 6,395
41	Kansas	\$ 480,752,000	41	Lowa	\$ 6,222
42	Wyoming	\$ 236,910,000	42	Oregon	\$ 6,214
43	North Dakota	\$ 174,161,000	43	Idiana	\$ 4,536
44	South Dakota	\$ 161,376,000	44	Kansas	\$ 2,488
45	South Dakota	\$ 67,100,000	45	South Dakota	\$ 2,379

An economy of scale is the second factor that may explain the differences in the liability per potential retiree reported among the states. The number of potential retirees in the state may indicate economies of scale exist with states with more employees having a benefit over states with fewer employees. Taking this idea one step further-the number of potential retirees per population may also indicate whether economies of scale exist within the state employees' healthcare plans. The percentage of people that are employed by the state measures whether states employ a larger number of workers relative to the state's overall population or whether they run leaner operations. States with a higher percentage of state employees may enjoy economies of scale because of their political clout. If a larger proportion of the state's population works for the state, for example, that may give the states' benefit officers greater power to negotiate better terms for their healthcare plans. The two variables, states' potential retirees and the percent of the state's population that are potential retirees, should be negatively related to the cost per person if the states are enjoying economies of scale. Additionally, because 2009 was a recession year and therefore may skew the number of state employees, the percent change in the number of state employees from 2005-2009 is also included as a control variable. No prediction as to sign for this variable is made.

The third factor that may explain the differences in the reported liabilities among the states may be the differences in their ability to pay for healthcare for their retirees. Poorer states may have to offer more bare-bones plans than states with more resources. The ability of a state to pay for healthcare is measured using several variables. The first variable is the per capita income of the state's population. The assumption is that richer taxpayers lead to higher taxes thereby giving states greater ability to offer more generous plans than states with poorer taxpayers that may require more government services. Per capita income is expected to be positively related to the liability per potential retiree. The second variable is the amount that the state's revenue exceeded the state's expenditures in 2007 divided by the state's population. This "net income per person" indicates the resources available to the state to pay healthcare fees. States that keep expenses lower than revenues have more financial flexibility and thus may be able to provide more healthcare to their employees. "Net income per person" is expected to be positively related to the liability per potential retiree. The third variable is the unfunded pension liability per potential retiree. If the

states are unwilling or unable to fund their pensions, they may be unwilling or unable to offer more healthcare coverage to their employees and/or require the employees to cover more of their insurance premiums which decreases their liabilities. This variable should be negatively related to the OPEB liability. The fourth variable is the state's contributions toward their OPEB liability in 2009. Theoretically, states with higher liabilities should be contributing more towards them. If a state has the resources to fund their obligations, they may be more likely to grant their employees higher benefits. It is predicted that contributions will be positively related to the liability.

The fourth factor that may explain the differences among the states' liabilities is the cost of healthcare itself. Some parts of the country may have higher healthcare costs than other parts. Looking at a state's expenditures on healthcare may be related to state employee healthcare costs faced by the states but may also reflect the generosity of the state in paying healthcare costs for the poor and the elderly of their states. The purpose of this study is to explain the differences in reported healthcare liabilities for public employees and retirees and not how much states are expending on healthcare for all. The state's healthcare expenditures cannot be broken into employees' expenditures and overall expenditures. Therefore, to proxy for the differences in the cost of providing healthcare to state employees among the states, a variable "insurance premiums" is used. This variable is the average cost in each state of purchasing healthcare insurance for family coverage in the year 2009. This variable reflects differences in healthcare costs among states. If healthcare costs are higher in New York, the premium for healthcare insurance should be higher. This variable proxies for differences in healthcare costs among the states and should be positively related to the OPEB liability.

The fifth factor is differences in healthcare liabilities may exist because of differences in the benefits given to retirees. States that provide more generous healthcare plans should have higher healthcare liabilities than states that provide more modest coverage. To measure the amount of the healthcare benefits provided to state employees, the percentage of the government employees that are covered by a collective bargaining agreement is used. It is assumed that the more unionized the employees are, the better the benefits they will receive. Historically, unionization and better benefits have been related (Buchmueller *et al.*, 2002). Although many states are currently negotiating with their public unions

to trim pensions and benefits, it is assumed that unions still have a positive impact on the amount of healthcare insurance provided. Therefore, states with higher union representation should have higher healthcare liabilities per potential retiree because they offer more generous plans.

To further explore differences in coverage provided, the amount of pension liability per potential retiree is also included in the model. It is assumed that states with generous pension plans will offer generous healthcare plans. Both the percent of potential retirees covered under a collective bargaining agreement and the pension liability per potential retiree should be positively related to the OPEB liability. Descriptive statistics for the variables discussed above, their sources and their expected sign are reported in **Table 2**.

As shown in **Table 2**, there is a wide variation in most variables. This table indicates there is little consistency among the states with regards to how much they owe in OPEB liabilities, the assumptions made which are the basis of these liabilities and to the amount they contribute towards the healthcare liabilities.

To examine what factors influence a state's reported OPEB liability, the following regression is used:

$$\text{OPEB/potential retiree} = \text{healthcare assumption} + \text{potential retiree} + \text{potential retiree /population} + \% \text{ change in \# employees} + \text{per capita income} + \text{"net income"} / \text{population} + \text{unfunded pension/potential retiree} + \text{contributions/potential retiree} + \text{premium costs} + \text{percent unionized} + \text{pension liability/potential retiree}.$$

**Table 2.** Descriptive statistics

Variable	Expected sign	mean	Std Dev.	Min	Max
Open liab/ potential retirees	+	\$57,673	\$ 54,964	\$ 2,379	\$ 226,999
Healthcare assumption	-	0.0923	0.015	0.06	0.136
Potential retirees	-	183,503	188,025	22,501	1,000,038
Potential retirees /population		0.035	0.017	0.019	0.128
Percent change employees		0.0526	0.045	-0.027	0.0143
Per capita income	+	\$37,632	\$ 7,452	\$ 3,229	\$ 54,397
Net income/population	+	\$1,384	\$ 7,840	\$ 243	\$ 5,436
Unfunded pension retirees	-	\$70,814	\$ 44,243	\$ 2,230	\$ 5,436
Contribution/potential retirees	+	\$1,624	\$ 1,633	\$ -	\$ 6,816
Premium costs	+	\$12,896	\$ 928	\$ 10,969	\$ 14,723
Unionization	+	38%	18%	11%	73%
Pension liability potential retirees	+	\$298,167	\$ 97,346	\$ 171,719	\$ 648,543
Number of state employees	Full-time employees -2009 annual survey of public employment and payroll-U.S census bureau				
Number of retirees	Number of state employees retirees 2001-2002-U.S census bureau				
OPEB liability	OPEB liability for 2009-PEW center on the states-the widening gap April 2011				
Health care assumption	Individual state's 2009 CAFRs				
Population	2009 resident population by state U.S census bureau				
Percentage of change in employees	Full time employees -2005 annual survey of public employees and payroll U.S census bureau				
Per capita income	Per capita personal income by state for 2009-U.S census bureau				
State revenues	Total revenue by state 2007 U.S. census bureau				
Unfunded pension	Dollar amount of the state pension that is unfunded is 2009 -PEW center on the states the widening gap April 2011				
Contributions	2009 contributions made by the states towards their OPEB-REW center on the states the widening gap April 2011				
Percent unionized	Percent of public employees covered by a collective bargaining agreement 2010 current population survey				
Pension liability	2009 total pension liability for state employees -REW center on the state the widening gap April 2011				

**Table 3.** Regression results

	Coefficients	Standard error	t Stat	P-value
Intercept	-50058.466010000	75638.957690000	-0.661807983	0.5126894710
Health assump 2009	-886045.592800000	299850.387500000	-2.954958972	0.0057317910
Potential retirees	0.045862346	0.023996770	1.911188315	0.0646986760
#Emp+ret/pop	192185.842500000	565621.693700000	0.339778061	0.7361768460
Percentage of Change	143512.689300000	98016.970930000	1.464161644	0.1526117090
Per capita income	0.485695639	0.665241276	0.730104485	0.4704778670
Net income per capita	-9.917287242	9.185804774	-1.079631833	0.2881340880
Unfunded pen/emp+ret	0.342123436	0.108568916	3.151209853	0.0034485060
Contrib/employee+ret	24.186699650	3.033630074	7.972857290	3.3869E-0900
Premium costs	10.393861090	5.277396993	1.969505251	0.0573373130
Percent unionized	39.474047150	251.288133600	0.157086793	0.8761336320
Pen liab/emp+ret	-0.123307890	0.061610156	-2.001421631	0.0536254472

R square 0.855351335; Observations; 45

Where:

Potential retirees =  $\frac{\text{Number of state employees} + \text{number of state retirees}}{\text{Number of state employees} + \text{number of state retirees}}$

% change in employees =  $\frac{\text{Percent change in number of state employees from 2005-2009}}{\text{Number of state employees from 2005-2009}}$

Net income / population =  $\frac{\text{State revenue} - \text{state expenditures}}{\text{population}}$

The results are presented in **Table 3**.

### 3. RESULTS AND DISCUSSION

The results indicate that six of the variables examined are significantly related to the OPEB liability yet not always in the direction expected. The first factor examined is the OPEB liability itself. The healthcare inflation rate assumed is significant but not in the predicted direction. Mathematically, the higher the assumed healthcare inflation rate, the higher the liability but the results show that governments with high liabilities per potential retiree are assuming lower healthcare costs. The wide range in predicted healthcare inflation rates (6-13%) indicate either there is a wide variance in state's ability to control future healthcare costs or that states are having difficulty in determining what healthcare costs are going to do in the future. It may also indicate that governments with higher healthcare assumptions maybe over estimating their healthcare liabilities which builds slack into their reported numbers. States with lower assumptions may be underreporting their liabilities. It would behoove state legislatures to examine the assumptions that underlie the reported liability to understand how the reported liability is dependent upon the underlying assumptions and verify that the assumptions represent economic reality.

The second factor examined is economies of scale. The results indicate that states do not enjoy economies of scale when reporting healthcare liabilities. States with a larger number of potential retirees face a higher OPEB liability per potential retiree. No evidence of economies of scales exists when negotiating healthcare costs; in fact, the results indicate the opposite. These results indicate that the political clout of large numbers of covered employees ensure better benefits to the employees themselves rather than cost savings for the state.

The third factor examined is the states' ability to pay. It is predicted that states with higher per capital

income and higher "net income per capita" will offer better healthcare plans causing higher liabilities per potential retiree. The model also predicts that states with large unfunded pension liabilities will have lower healthcare liabilities per potential retiree. The results show that neither the wealth of the state's taxpayers as measured by per capita income nor the state's fiscal restraint as measured by "net income per capita" influence the level of liabilities reported. However, the results are significant regarding unfunded pensions per potential employee. It was assumed that states with difficulties funding pension plans would not have the ability to finance large OPEB liabilities. Instead, the results indicate that states that don't fund their pensions also incur large liabilities for healthcare. It seems that states with pension problems also have problems with large OPEB liabilities. However, contribution per potential retiree is positively related to the liability per potential retiree. In 2009, states with higher liabilities per potential retiree contributed more towards their OPEB liabilities. These results indicate that governments who promise a lot of healthcare benefits are trying to fund the liabilities. States with large, unfunded pension liabilities seem to be trying to avoid the same mistakes with these newly reported healthcare liabilities.

The fourth factor examined is the cost of healthcare faced by the states. The results show premium costs are positively related to the reported liability. The cost of insurance premiums is used to proxy for the cost of healthcare in the state. States with higher premiums and thus higher healthcare costs have higher liabilities per potential retirees. These results are logical and consistent.

The fifth factor examined is the level of benefits provided to total potential retirees. Information on the level of benefits provided to employees is not available on a state by state basis. Therefore, the percentage of the workforce that operates under a collective bargaining agreement and the pension liability per potential retiree proxy for the level of healthcare benefits offered to retirees. Unionization is not significantly related to the liability while pension liability is negatively related. These results indicate that unionization does not impact the level of healthcare benefits given. However, the results indicate that states with more generous pension plans have less generous healthcare plans. It is possible that states are trading off pension benefits with healthcare benefits when providing retirement coverage to employees. The results may also indicate that it is easier to change healthcare coverage through increased co-pays than it is to change pension plans.

In summary, states with higher healthcare liabilities per potential retiree contribute more to their healthcare liabilities and assume lower rates of increases in healthcare costs. They have a larger number of potential retirees and lower pension liabilities but these pension liabilities are more likely to be underfunded. These states also face higher costs for the healthcare coverage they provide.

#### 4. CONCLUSION

This study finds that several factors influence the OPEB liability per potential retiree. States that cover a larger number of employees have higher liabilities per potential retiree. The large number of state employees, past and present, appears to be using their political clout to accrue better healthcare benefits for themselves rather than the states accruing the benefits of large numbers through lower costs per person. Next, states with high pension liabilities per person have lower healthcare liabilities per person while states with high unfunded pension liabilities per person have higher healthcare liabilities per person. These results indicate two different things. Firstly, it appears that states make tradeoffs. States that offer generous pension plans offer less generous healthcare plans. However, states that have problems with their pension plans because they are underfunded appear to be compensating by offering more healthcare coverage. All these results are interesting but further analysis is necessary. The states are currently in a time of flux regarding their retirement benefits. Examining these results again in a few years will be intriguing to see what changes have been made to state retirement benefits.

One of the most important contributions of this study is the examination of the assumed healthcare inflation rate. So far, no other study has examined this assumption as made by the states. The relationship between actuarial assumptions and pension liabilities has been studied but little research has looked at the relationship between actuarial assumptions and the liability reported for the cost of providing healthcare to retirees. Recall the estimates ranged from 6% to over 13% in 2009. This wide range of estimates calls into question whether the OPEB liabilities currently being reported by the states represents the "true" costs of these liabilities. When examining the fiscal health of the states, it is important to accurately measure the obligations the states have made to their employees. Retirees' healthcare costs are another "hidden" liability

that has only recently appeared on state and local government's financial statements. It is possible that the wide range in healthcare assumptions accurately reflect the underlying liability. It is also possible that the wide range in assumptions reflect the newness in reporting the OPEB liability and the difficulty in predicting future healthcare costs. Either way, users of the states' financial statements should be aware of the variance among the states when making predictions as to future healthcare costs and the impact these predictions have on the reported numbers.

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