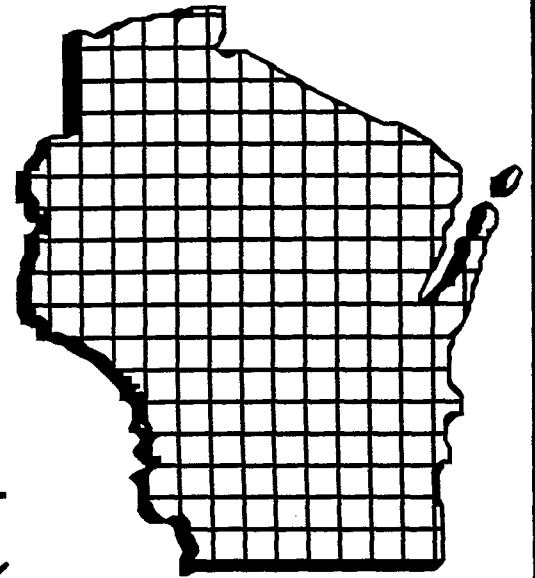


Wisconsin

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Report



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**THE VALUE OF
FRINGE BENEFITS
AND TENURE IN
WISCONSIN**

Public versus Private

REPORT FROM THE PRESIDENT:

During the past decade, there has been much debate over the issue of the total earnings of public- versus private-sector employees in Wisconsin. Most of the research has only dealt with the employees' salaries. We thought that valuing the fringe-benefit packages of employees would be an important ingredient to this debate.

We contacted Professor Richard Cebula, a nationally known economist from Georgia Tech, to conduct a comparative research study on the fringe-benefit packages of public and private employees in Wisconsin. While it was not surprising to discover that public fringe benefits are 36% higher than private fringe benefits, Professor Cebula also gives some important data on the cost of tenure.

We believe there is no more important issue in America today for workers than job security, yet many public employees have almost *guaranteed* job security. This benefit is never questioned or quantified, yet it may be the most important fringe benefit that can be given to a worker. We have examined primary and secondary school teachers because of the growing controversy about their inability to replace teachers. We not only include actual outright tenure, but also *de facto* tenure resulting from seniority and the "just-cause" clause in most union contracts.

Professor Cebula estimates that it costs Wisconsin approximately \$90 million a year to have tenure for all state teachers. He also points out that tenure should not be replaced, but should be included in the overall discussion of employees' wages and benefits.

It would be interesting to see whether, the next time the teachers' union complains about the lack of money spent on education in Wisconsin, it is counting the fringe benefit of tenure for their employees. Is there anyone in Wisconsin, in any industry, who would not trade some of their salary for permanent job security? I sincerely doubt it.


James H. Miller

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THE VALUE OF FRINGE BENEFITS AND TENURE IN WISCONSIN

Public versus Private

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EXECUTIVE SUMMARY

This study examines the differentials in the levels of fringe benefits provided to full-time workers between the public and private sectors in the state of Wisconsin. In addition, this study examines the value of tenure or its equivalent in the Wisconsin public school system at the primary and secondary levels.

The study focuses on several specific categories of fringe benefits and examines the fringe benefit as a percentage of income. Specifically, the analysis deals with the following:

- paid time off;
- individual retirement and savings plans;
- pension plans;
- life insurance and death benefits;
- medical and medically related benefits;
- hospital, surgical, and medical premiums;
- short-term disability, sickness, or accident insurance;
- long-term disability or wage-continuation insurance;
- other medical insurance;
- education/tuition reimbursement; and,
- total fringe benefits combined.

The overall findings include the following:

- pension-plan benefits, medical benefits, hospital, surgical, and medical premiums are much higher in the public sector than in the private sector; and,
- short-term disability, sickness or accident insurance benefits are higher in the private sector than in the public sector, as are the benefits for life insurance and death benefits, other medical insurance, long-term disability, and education/tuition reimbursement.

However, the overall fringe-benefit value appears to be 36% higher in the public sector than in the private sector.

Finally, the value of an additional benefit, tenure and its equivalent, for both elementary school and secondary school teachers was estimated. In the aggregate, tenure may be worth as much as \$49 million annually to the elementary school teachers of Wisconsin and as much as \$40 million annually to the secondary school teachers of Wisconsin.

INTRODUCTION

Both the private sector and the public sector in Wisconsin employ huge numbers of personnel. In many instances, these two sectors of the Wisconsin economy compete, either directly or indirectly, for the same human resources.

Typically, the private-sector employer tends to be oriented, over the longer run, towards profit maximization and efficiency; indeed, success at achieving the latter is usually a requirement for achieving the former.

In standard vernacular, the firm seeks to maximize its profit (π), which depends on its output (production) level (Q) and is the excess of its sales revenues (R) over its production costs (C), both of which also depend on output.¹ This is standard microeconomic analysis. Clearly, for the private-sector firm, a necessary condition for profits to be maximized is that the efficiency of production for the firm must be maximized. No such counterpart behavior or conditions apply to the public sector.

The public-sector employer, on the other hand, seeks different objectives. In other words, the public-sector employer may to some extent fall prey to the effects of politics and the use of power to promote agendas that benefit politicians who are either elected or appointed to office.²

In addition, unlike the private sector, where profits are the disciplining factor, there is usually a lack of genuine accountability in the public sector. That is, the public sector, since it is for the most part not required to achieve efficiency and since it typically cannot be easily monitored and evaluated in terms of efficiency, has less incentive to ensure that, among other things, its non-wage compensation package (including the provision of health insurance, pension benefits, and, where applicable, tenure) is not excessive. Indeed, it is likely that government-employed bureaucrats prefer to hire as many additional bureaucrats as possible because the larger the number and growth rate of such fellow bureaucrats, the more secure their own employment is likely to be. A very plausible policy for promoting such employment growth is an excessive non-wage compensation package. To the extent that such outlays are excessive, taxes are higher than necessary.

In this study, a public-sector versus private-sector comparison of non-wage compensation differentials is made. For each category of non-wage compensation, the differential between the public and private sectors is examined. Specifically, for each job category where a public/private sector comparison can be made, the study endeavors to compute excess health benefits, excess pension benefits, and other such non-wage compensation excesses paid by the public sector in Wisconsin. I focus on each major category of fringe benefit and then on all fringe benefits combined, comparing in each case the public- versus private-sector provision levels. The comparison involves not only the average level of each fringe benefit, but also a formal statistical test to determine whether these benefit levels are indeed significantly different. Also included in the analysis is an evaluation of the tenure issue: at the primary and secondary levels, what is the value of tenure and, once that value is determined, what are its implications for the non-wage compensation being paid by the public sector (taxpayers) of Wisconsin?

ANALYSIS OF FRINGE BENEFITS

A. Introduction

The first step in the analysis of the differential fringe-benefit levels between the public and private sectors in Wisconsin is to identify the principal components of the public and private sectors in

the state. The public sector is divided into two components: the state government and local government. The private sector is divided into eight components: construction; durable goods; nondurable goods; transportation, communication, and public utilities; wholesale/retail trade; finance, insurance and real estate; services and miscellaneous; and health services. The information regarding the two sectors was collected through a benefit survey, performed by the Wisconsin Department of Industry, Labor and Human Relations Division of Employment and Training Policy, on actual benefit costs for all regular, full-time employees in Wisconsin. A total of 6,236 surveys were sent to employers in all industries, of all sizes, in all parts of the state; the sample was allegedly a representative one. For each respondent, representatives of management and labor reviewed the questionnaires, and endorsed the mail survey. There were 1,641 usable surveys returned, which represents a 26.6% response rate. In the survey, the employers were categorized, as follows: those with 0 to 50 employees; those with 51 to 100 employees; those with 101 to 150 employees; those with 151 to 200 employees; those with 201 to 250 employees; those with 251 to 500 employees; those with 501 to 1,000 employees; and those with more than 1,000 employees. The response rate (expressed as a percentage) is relatively uniform across all sizes of employers, *i.e.*, the sample was apparently (allegedly) a relatively sound representative sample of the Wisconsin employer population.

For all of the public- and private-sector categories, the first class of fringe benefits considered is the "Paid Time Off," which consists of the following five components: vacation days; sick leave earned; paid holidays; personal days; and total paid days off used.

The "Paid Time Off" is calculated in two ways: (1) the benefit expressed in terms of the number of days per year; and (2) the benefits expressed in terms of the percent of total days worked per year. The reason for the second calculation is to facilitate a comparison among the various categories of the two sectors. The data are shown in Tables 1A below and 1B on the next page.

For three of the five categories of "Paid Time Off," the public sector offers higher benefits in terms of both the number of days off per year and the percentage of total days worked per year. This result is especially evident in terms of the percentage of days worked. For example, as shown in Table 1A, the percentage of total paid days off used in the state and local governments is 15.83% and 13.40%,

TABLE 1A Public-Sector Employees' Eligible Benefits (Excluding Teachers)

	Eligible			Actually Used	
	Vacation Days	Sick Leave Earned	Holidays Paid	Personal Days	Total Paid Days Off Used
<i>Days per Year</i>					
State Govt.	15.5	13.00	9.50	3.00	35.91
Local Govt.	15.2	11.37	9.34	1.75	30.87
<i>% of Total Days Worked per Year</i>					
State Govt.	6.83%	5.73%	4.19%	1.32%	15.83%
Local Govt.	6.60%	4.94%	4.05%	0.76%	13.40%

Source: Wisconsin Dept. of Industry, Labor and Human Relations Division of Employment and Training Policy, *Employee Benefits 1989*.

TABLE 1B Private-Sector Employees' Eligible Benefits

	Eligible			Personal Days	Actually Used
	Vacation Days	Sick Leave Earned	Holidays Paid		Total Paid Days Off Used
<i>Days per Year</i>					
Construction	12.1	0.16	2.47	0.16	15.00
Durable Goods	11.9	0.68	9.20	0.35	22.88
Nondurable Goods	13.4	1.94	8.30	0.74	24.15
Trans., Comm., & Public Util.	16.1	2.98	9.33	1.85	28.85
Wholesale/Retail Trade	12.1	2.52	5.92	1.41	21.33
Fin., Ins., & Real Estate	13.6	8.30	8.09	1.84	27.69
Serv. & Misc.	12.2	7.12	7.26	1.34	24.62
Health Services	14.5	8.76	6.34	1.80	26.73
<i>% of Total Days Worked per Year</i>					
Construction	4.90%	0.06%	1.00%	0.06%	6.07%
Durable Goods	4.79%	0.27%	3.70%	0.14%	9.21%
Nondurable Goods	5.42%	0.78%	3.36%	0.30%	9.77%
Trans., Comm., & Public Util.	6.92%	1.28%	4.01%	0.79%	12.40%
Wholesale/Retail Trade	4.90%	1.02%	2.40%	0.57%	8.63%
Fin., Ins., & Real Estate	5.94%	3.62%	3.53%	0.80%	12.09%
Serv. & Misc.	5.23%	3.05%	3.11%	0.57%	10.55%
Health Services	6.40%	3.87%	2.80%	0.79%	11.79%
(Excludes Public Hospitals)					

Source: Wisconsin Dept. of Industry, Labor and Human Relations Division of Employment and Training Policy,
Employee Benefits 1989

respectively. By contrast, as shown in Table 1B, the highest percentage of total paid days off used in any component of the private sector is 12.40%, for the case of transportation, communication and public utilities industry, while the lowest percentage belongs to the construction industry, which used only 6.07% of its total paid days.

There are a few cases in which the private sector has higher benefits than the public sector. These exceptions are shown in Table 1B. The transportation, communication and public utilities industry — which was constructed so as to include only private employees — has higher benefits in the vacation-days category, in terms of both days per year and percentage of total days worked, than the public sector. The other exception is the personal days category, where three industries — transportation, communication and public utilities; finance, insurance and real estate; and health services — have higher benefits in terms of days per year and percentage of total days worked, than the local government, but not higher than the state government.

Not surprisingly, when paid time off is expressed on an hourly basis (Table 2 on the next page), the same pattern as in Tables 1A and 1B is revealed.

For the convenience of the reader, Table 3 on the next page summarizes the average gross-pay measures of the two sectors. Five categories are described: gross pay; hours worked; gross pay per hour

TABLE 2 Paid Time Off as a Percentage of Hours Worked
in the Public and Private Sectors

	Paid Time Off	Eligible		Personal Days	Actually Used
		Vacation Days	Holidays Paid		Sick Leave Earned
<i>Public Sector</i>					
State Govt.	15.83%	6.82%	4.19%	1.32%	3.44%
Local Govt.	13.40%	6.61%	4.05%	0.76%	1.90%
<i>Private Sector</i>					
Construction	6.07%	4.91%	1.00%	0.06%	0.05%
Durable Goods	9.21%	4.79%	3.70%	0.14%	0.21%
Nondurable Goods	9.77%	5.41%	3.36%	0.30%	0.44%
Trans., Comm., & Public Util.	12.40%	6.92%	4.01%	0.79%	0.54%
Wholesale/Retail Trade	8.63%	4.91%	2.40%	0.57%	0.43%
Fin., Ins., & Real Estate	12.09%	5.93%	3.53%	0.80%	1.55%
Serv. & Misc.	10.55%	5.24%	3.11%	0.57%	1.37%
Health Services	11.79%	6.39%	2.80%	0.79%	1.54%

Source: Wisconsin Dept. of Industry, Labor and Human Relations Division of Employment and Training Policy.
Employee Benefits 1989.

TABLE 3 Gross Pay in the Public and Private Sectors (\$)

	Gross Annual Pay	Hours Worked	Gross Pay per Hour Worked		Salaries per Hour Worked
			Salaries		
<i>Public Sector</i>					
State Govt.	24,559.76	1,814.82	13.53	23,891.58	13.16
Local Govt.	23,990.53	1,842.80	13.02	20,182.22	11.64
<i>Private Sector</i>					
Construction	27,992.48	1,976.22	14.16	25,959.31	13.17
Durable Goods	25,565.46	1,987.28	12.86	21,274.34	10.97
Nondurable Goods	23,693.39	1,978.48	11.98	19,606.65	10.59
Trans., Comm., & Public Util.	32,621.73	1,861.90	17.52	27,549.76	16.42
Wholesale/Retail Trade	18,832.02	1,977.08	9.53	12,089.54	8.42
Fin., Ins., & Real Estate	23,630.42	1,832.63	12.89	21,470.08	11.69
Serv. & Misc.	19,500.81	1,867.75	10.44	16,275.12	9.54
Health Services	21,591.46	1,813.01	11.91	14,714.90	10.21

Source: Wisconsin Dept. of Industry, Labor and Human Relations Division of Employment and Training Policy.
Employee Benefits 1989.

worked; salary; and salary per hour worked. The term "salary" refers to a fixed compensation paid regularly and is independent of hours worked. Gross pay is calculated by adding overtime, holiday, shift differential, weekend differential, incentive and/or production bonus and other pay to salaries and/or straight time pay. Hours worked are the total number of hours worked per full-time employee, per year. The gross pay per hour worked is calculated by dividing the average gross yearly pay by the number of hours worked in a year. The salary per hour worked is also calculated by dividing the average yearly salary by the number of hours worked in a year.

In general, while the salaries paid in the public and private sectors are quite similar, the public sector has clearly worked fewer hours than the private sector, making the gross pay per hour worked, in most cases, higher in the public sector. The gross annual pay levels per hour worked for the state and local governments are \$13.53 and \$13.02, respectively. The private sector, except for the construction industry and the transportation, communication and public utilities industry, has lower gross annual pay. This is also true for salaries, where the salaries per hour worked are clearly quite higher in the local and state governments, with the only exception, once again, of the construction industry.

Other Fringe Benefits

To demonstrate even further the great differences between the fringe-benefit policies of the public and private sectors, the fringe benefits, other than "Paid Time Off," offered to the employees of each sector are now examined. There are nine major categories of such fringe benefits: retirement and savings plan; pension plan; life insurance and death benefits; medical and medically related benefits; hospital, surgical and medical premiums; short-term disability, sickness or accident insurance; long-term disability or wage continuation insurance; other medical insurance; and education/tuition reimbursement and other miscellaneous benefits. In Tables 5-13, data on these nine categories of fringe benefits are provided. The data in these tables are expressed as percentages of hourly earnings.

TABLE 4 Full-Time Employment by Industry

<i>Public Sector</i>	
State Govt.	37,307
Local Govt.	23,625
<i>Total</i>	<i>60,932</i>
<i>Private Sector</i>	
Construction	809
Durable Goods	20,312
Nondurable Goods	9,487
Trans., Comm., & Public Util.	19,243
Wholesale/Retail Trade	5,805
Fin., Ins., & Real Estate	14,660
Serv. & Misc.	4,470
Health Services	6,829
<i>Total</i>	<i>81,615</i>

Source: Wisconsin Dept. of Industry, Labor and Human Relations Division of Employment and Training Policy, *Employee Benefits 1989*.

To compare meaningfully the fringe-benefit plans provided by the public and private sectors, a weighted average of the levels of these plans is calculated. The weighted averages are found by multiplying the number of full-time employees in each industry by the percentage costs of each plan. Then, the total numbers in each industry are added to obtain a total for each sector. This number is then divided by the total number of full-time employees in each sector. Table 4 to the left summarizes the number of employees of the public and private sectors by industry.

To illustrate the weighted average procedure, the levels of the retirement and savings plan are 13.75% of income for the state government and 11.73% of income for the local government, as shown in Table 5 on the next page. The number of full-time employees in the *representative sample* for state and local governments are 37,307 and 23,625, respectively, giving a total for the public sector of 60,932 full-time employees. In this sample, teachers

**TABLE 5 Individual Retirement and Savings Plans
in the Public and Private Sectors**

	Total Contribution per Year (\$)	Total Contribution per Hour (\$)	Total Contribution (% per Hour Worked)	Weighted Average
<i>Public Sector</i>				
State Govt.	3,376.55	1.86	13.75	0.129667908
Local Govt.	2,838.26	1.53	11.73	
<i>Private Sector</i>				
Construction	1,716.55	0.85	6.03	0.043347477
Durable Goods	1,033.14	0.52	4.04	
Nondurable Goods	800.46	0.40	3.37	
Trans., Comm., & Public Util.	1,546.17	0.83	4.74	
Wholesale/Retail Trade	426.52	0.22	2.26	
Fin., Ins., & Real Estate	1,617.47	0.88	6.82	
Serv. & Misc.	463.38	0.25	2.36	
Health Services	661.42	0.35	2.93	

Source: Wisconsin Dept. of Industry, Labor and Human Relations Division of Employment and Training Policy,
Employee Benefits 1989.

are not included as government employees. If 13.75% (0.1375) is multiplied by 37,307 and 11.73% (0.1173) by 23,625, and the results added, we obtain 7,900.925. Finally, dividing 7,900.925 by the total number of the public sector's full-time employees yields the weighted average for this sector: 0.1296. By following the same procedure for the *representative sample* for the private sector, we obtain 0.0433. Now, if 0.1296 is divided by 0.0433, one can obtain the ratio of the values of the public sector to the private sector. The ratio in this case is 2.99. This means that the employer provides a retirement and savings plan that is three times higher in the public sector than in the private sector. It can be assumed that the proportions in the sample are approximately the same as the ones in the state, since the response rate of the benefit survey was approximately uniform across all sizes of employers in the state. The weighted averages for all nine fringe-benefit categories are provided in Tables 5-13.

At this point, it can be said that the level of many forms of fringe benefits appears to be much higher in the public sector than in the private sector. In fact, the value of pension plans is seven times higher in the public sector (Table 6 on the next page), while the value of medical benefits, hospital, surgical and medical premiums is 1.5 times higher in the public sector.

On the other hand, it was also found that the level of short-term disability, sickness or accident insurance is 22 times higher in the private sector. The level is twice as high in the private sector for life insurance and death benefits, and other medical insurance, while three times higher for long-term disability. Finally, the education/tuition reimbursement and other miscellaneous benefits are 10 times higher in the private sector.

A ratio of the weighted averages is also calculated for total fringe benefits, *i.e.*, all fringe-benefit categories combined, and is shown in Table 14 on page 12. The ratio of the total fringe benefits in the public sector to that in the private sector is 1.36, which implies that the fringe benefits in the public sector

TABLE 6 Institutional Pension Plans in the Public and Private Sectors

	Total Contribution per Year (\$)	Total Contribution per Hour (\$)	Total Contribution (% per Hour Weighted Worked)	Total Contribution Average
<i>Public Sector</i>				
State Govt.	3,376.55	1.86	13.75	0.12741909
Local Govt.	2,675.91	1.45	11.15	
<i>Private Sector</i>				
Construction	365.24	0.18	1.30	0.017237788
Durable Goods	185.13	0.09	0.72	
Nondurable Goods	251.81	0.13	1.06	
Trans., Comm., & Public Util.	1,073.15	0.58	3.29	
Wholesale/Retail Trade	206.56	0.10	1.10	
Fin., Ins., & Real Estate	567.01	0.31	2.40	
Serv. & Misc.	76.19	0.04	0.39	
Health Services	264.13	0.15	1.22	

Source: Wisconsin Dept. of Industry, Labor and Human Relations Division of Employment and Training Policy, *Employee Benefits 1989*.

TABLE 7 Life Insurance and Death Benefits in the Public and Private Sectors

	Total Contribution per Year (\$)	Total Contribution per Hour (\$)	Total Contribution (% per Hour Weighted Worked)	Total Contribution Average
<i>Public Sector</i>				
State Govt.	41.75	0.02	0.17	0.002397909
Local Govt.	84.17	0.04	0.35	
<i>Private Sector</i>				
Construction	215.65	0.11	0.77	0.005828392
Durable Goods	76.05	0.04	0.30	
Nondurable Goods	118.72	0.06	0.50	
Trans., Comm., & Public Util.	315.17	0.17	0.97	
Wholesale/Retail Trade	60.32	0.03	0.32	
Fin., Ins., & Real Estate	203.78	0.11	0.86	
Serv. & Misc.	64.93	0.03	0.33	
Health Services	46.84	0.03	0.22	

Source: Wisconsin Dept. of Industry, Labor and Human Relations Division of Employment and Training Policy, *Employee Benefits 1989*.

TABLE 8 Medical and Medically Related Benefits in the Public and Private Sectors

	Total Contribution per Year (\$)	Total Contribution per Hour (\$)	Total Contribution (% per Hour Worked)	Weighted Average
<i>Public Sector</i>				
State Govt.	1,900.39	1.05	7.74	0.08883796
Local Govt.	2,524.58	1.39	10.69	
<i>Private Sector</i>				
Construction	1,979.17	0.98	6.94	0.06998393
Durable Goods	1,675.17	0.87	6.73	
Nondurable Goods	1,695.61	0.87	7.30	
Trans., Comm., & Public Util.	3,597.01	1.48	8.45	
Wholesale/Retail Trade	895.39	0.45	4.69	
Fin., Ins., & Real Estate	1,707.75	0.94	7.29	
Serv. & Misc.	1,230.34	0.53	5.12	
Health Services	1,256.75	0.70	5.86	

Source: Wisconsin Dept. of Industry, Labor and Human Relations Division of Employment and Training Policy, *Employee Benefits 1989*.

TABLE 9 Hospital, Surgical, and Medical Premiums in the Public and Private Sectors

	Total Contribution per Year (\$)	Total Contribution per Hour (\$)	Total Contribution (% per Hour Worked)	Weighted Average
<i>Public Sector</i>				
State Govt.	1,890.54	1.04	7.70	0.081226228
Local Govt.	2,109.74	1.14	8.79	
<i>Private Sector</i>				
Construction	1,638.14	0.83	5.85	0.056275743
Durable Goods	1,105.04	0.56	4.32	
Nondurable Goods	1,048.20	0.53	4.42	
Trans., Comm., & Public Util.	2,689.11	1.44	8.24	
Wholesale/Retail Trade	575.89	0.29	3.06	
Fin., Ins., & Real Estate	1,337.73	0.73	5.66	
Serv. & Misc.	1,290.04	0.69	6.62	
Health Services	1,138.00	0.63	5.27	

Source: Wisconsin Dept. of Industry, Labor and Human Relations Division of Employment and Training Policy, *Employee Benefits 1989*.

**TABLE 10 Short-Term Disability, Sickness, or Accident Insurance
in the Public and Private Sectors**

	Total Contribution per Year (\$)	Total Contribution per Hour (\$)	Total Contribution (% per Hour Worked)	Weighted Average
<i>Public Sector</i>				
State Govt.	0.00	0.00	0.00	0.0000775455
Local Govt.	4.97	0.00	0.02	
<i>Private Sector</i>				
Construction	8.86	0.00	0.03	0.00172558
Durable Goods	66.10	0.03	0.26	
Nondurable Goods	32.22	0.02	0.14	
Trans., Comm., & Public Util.	85.52	0.05	0.26	
Wholesale/Retail Trade	7.50	0.00	0.04	
Fin., Ins., & Real Estate	14.99	0.01	0.06	
Serv. & Misc.	19.99	0.01	0.10	
Health Services	28.73	0.02	0.13	

Source: Wisconsin Dept. of Industry, Labor and Human Relations Division of Employment and Training Policy,
Employee Benefits 1989

**TABLE 11 Long-Term Disability or Wage-Continuation Insurance
in the Public and Private Sectors**

	Total Contribution per Year (\$)	Total Contribution per Hour (\$)	Total Contribution (% per Hour Worked)	Weighted Average
<i>Public Sector</i>				
State Govt.	9.84	0.01	0.04	0.000477545
Local Govt.	13.49	0.01	0.06	
<i>Private Sector</i>				
Construction	6.73	0.00	0.02	0.00147461
Durable Goods	16.19	0.01	0.06	
Nondurable Goods	26.09	0.01	0.11	
Trans., Comm., & Public Util.	34.42	0.02	0.11	
Wholesale/Retail Trade	7.74	0.00	0.04	
Fin., Ins., & Real Estate	101.80	0.06	0.43	
Serv. & Misc.	27.97	0.01	0.14	
Health Services	15.11	0.01	0.07	

Source: Wisconsin Dept. of Industry, Labor and Human Relations Division of Employment and Training Policy,
Employee Benefits 1989

TABLE 12 Other Medical Benefits in the Public and Private Sectors

	Total Contribution per Year (\$)	Total Contribution per Hour (\$)	Total Contribution (% per Hour Weighted Worked)	Average
<i>Public Sector</i>				
State Govt.	0.00	0.00	0.00	0.001124409
Local Govt.	68.75	0.04	0.29	
<i>Private Sector</i>				
Construction	260.01	0.13	0.93	0.002409183
Durable Goods	28.30	0.01	0.11	
Nondurable Goods	34.01	0.02	0.14	
Trans., Comm., & Public Util.	177.97	0.10	0.55	
Wholesale/Retail Trade	9.17	0.00	0.05	
Fin., Ins., & Real Estate	38.08	0.02	0.16	
Serv. & Misc.	28.21	0.02	0.14	
Health Services	48.33	0.03	0.22	

Source: Wisconsin Dept. of Industry, Labor and Human Relations Division of Employment and Training Policy,
Employee Benefits 1989.

TABLE 13 Education/Tuition Reimbursement and Other Miscellaneous Benefits in the Public and Private Sectors

	Total Contribution per Year (\$)	Total Contribution per Hour (\$)	Total Contribution (% per Hour Weighted Worked)	Average
<i>Public Sector</i>				
State Govt.	8.04	0.00	0.03	0.000571409
Local Govt.	24.62	0.01	0.10	
<i>Private Sector</i>				
Construction	121.00	0.06	0.43	0.00618512
Durable Goods	70.60	0.04	0.28	
Nondurable Goods	58.46	0.03	0.25	
Trans., Comm., & Public Util.	560.46	0.30	1.72	
Wholesale/Retail Trade	34.20	0.02	0.18	
Fin., Ins., & Real Estate	92.64	0.05	0.39	
Serv. & Misc.	43.00	0.02	0.22	
Health Services	38.11	0.02	0.18	

Source: Wisconsin Dept. of Industry, Labor and Human Relations Division of Employment and Training Policy,
Employee Benefits 1989.

TABLE 14 Total Fringe Benefits in the Public and Private Sectors

	Total Benefits (%)	Paid Time Off (%)	Mandatory Benefits (%)	Retirement (%)	Life Insurance (%)	Total Medical (%)	Ed./Misc. (%)
<i>Public Sector</i>							
State Govt.	45.79	15.76	8.37	13.75	0.17	7.74	0.00
Local Govt.	45.41	13.32	9.21	11.73	0.35	10.69	0.11
<i>Private Sector</i>							
Construction	37.15	6.02	16.95	6.03	0.77	6.94	0.43
Durable Goods	31.65	8.84	11.46	4.04	0.30	6.73	0.28
Nondurable Goods	31.77	9.50	10.84	3.37	0.50	7.30	0.26
Trans., Comm., & Public Util.	37.40	12.26	9.07	4.74	0.97	8.45	1.91
Wholesale/Retail Trade	29.29	8.30	13.46	2.26	0.32	4.69	0.25
Fin., Ins., & Real Estate	35.52	11.81	8.34	6.82	0.86	7.29	0.39
Serv. & Misc.	28.75	10.30	10.39	2.36	0.33	5.12	0.24
Health Services	31.41	11.53	10.65	2.93	0.22	5.86	0.22
<i>Weighted Averages</i>							
Public Sector	0.456426636						
Private Sector	0.334225618						

Source: Wisconsin Dept. of Industry, Labor and Human Relations Division of Employment and Training Policy, *Employee Benefits 1989*

are 36% higher than those in the private sector. Therefore, one can conclude that the public sector provides its employees with substantially higher benefits than the private sector. In theory, although part of this 36% benefit differential might be traceable to education differences between public- and private-sector employees, the Wisconsin taxpayers potentially could be paying for an excess benefit to public employees. The latter excess could be as high as 36%, which translates into approximately \$1.47 an hour.

B. Formal Testing

To examine formally the disparities between the two sectors, the following null hypothesis is formulated: the value of the fringe benefits provided by the public sector is not higher than the value of the private sector ($H_0: z = 0$). The test statistic that is used is:

$$z = [(x_1 - x_2) - D_0] / [(s_1^2/n_1) + (s_2^2/n_2)]$$

where:

- x_1 : weighted average of the public sector
- x_2 : weighted average of the private sector
- D_0 : difference of the sample means
- s_1^2 : standard deviation of the public sector
- n_1 : sample size of the public sector
- s_2^2 : standard deviation of the private sector
- n_2 : sample size of the private sector.

TABLE 15 Values of Fringe Benefits

	Z Values	Null Hypothesis
Retirement and Savings	+7.25	Reject
Pension	+8.04	Reject
Life Insurance and Death Benefits	-2.61	Reject
Medical & Medically Related Benefits	+1.20	Accept
Hospital, Surgical, & Medical Premiums	+3.20	Reject
Short-Term Disability, Sickness, or Accident Insurance	-4.39	Reject
Long-Term Disability or Wage-Continuation Insurance	-1.97	Reject
Other Medical Insurance	-0.71	Accept
Education/Tuition Reimbursement & Other Miscellaneous	-2.88	Reject
Total Benefits	+9.91	Reject

*Critical value = |1.96|

$H_0: z = 0$, for $\alpha = 0.05$ and thus $z_{\alpha/2} = z_{0.025} = 1.96$, where α represents the confidence level (95%) at which H_0 can be rejected. The decision rule is as follows:

Accept H_0 if $z \leq |1.96|$

Reject H_0 if $z > |1.96|$

Using the weighted averages and calculating the standard deviations and the sample sizes for both the public and private sectors for all of the fringe-benefit plans, it is possible to obtain a value for z , for each category of fringe benefit. The results of the z -tests are shown in Table 15 above.

According to the decision rule, the null hypothesis can be rejected at far above the 95% confidence level in the retirement and savings plan; pension plan; life insurance and death benefits; hospital, surgical and medical premiums; short-term disability, sickness or accident insurance; long-term disability or wage continuation insurance; and education/tuition reimbursement and other miscellaneous benefits. The null hypothesis, H_0 , states that there is no significant difference between the average fringe-benefit value in the public-sector representative sample and its counterpart in the private-sector representative sample. As shown in Table 15, the null hypothesis is rejected with a high degree of confidence — that is, the computations from the sample data indicate that in the cases listed above in this paragraph, there does exist a significant difference between the fringe benefits offered in the public-sector sample and in the private-sector sample.

The values of z also show how one can reject the null hypothesis: for positive significant values of z , one can conclude that the fringe-benefit values are higher in the public sector. For negative significant values of z , one can state the opposite, that is, the fringe-benefit values are higher in the private sector. Therefore, the value of the fringe benefits offered by the public sector is significantly higher than those offered by the private sector in the following categories: retirement and savings plan; pension plan; and hospital, surgical and medical premiums. The value of fringe benefits is significantly higher in the private sector for the cases of: life insurance and death benefits; short-term disability; long-term disability; and education/tuition reimbursement plans. There are two categories, medical and medically related benefits and other medical insurance, where the null hypothesis cannot be rejected.

Consequently, there is no significant difference between the value of these benefits between the two sectors.

This calculation is also performed on the total of all the benefit categories combined, and it is found that the null hypothesis can be rejected beyond the 95% confidence level. Since the value of z is positive, this study finds that the total value paid by the public sector for its fringe benefits is significantly higher than the value of the benefits paid by the private sector.

C. Tenure Evaluation

The purpose of this section of the study is to determine the value/cost of tenure of primary and secondary school teachers (1) to the teachers themselves and (2) to the taxpayers of Wisconsin. (In this report, the term "tenure" is considered to collectively include the tenure, seniority, and "just-cause" clauses in employment contracts that together constitute *de facto* permanent job security for teachers by making it effectively impossible to dismiss even incompetent ones.)

The value of tenure to the teachers is determined first by calculating the discounted present value (DPV) of the income stream of an average elementary school teacher and the income stream of an average secondary school teacher. The statistically average elementary school teacher in Wisconsin is a female, age 38, with a yearly current salary of \$34,102 (Wisconsin State Board of Education) and with 19 years of full-time equivalent (FTE) work-life remaining (U.S. Dept. of Labor, Bureau of Labor Statistics, *Worklife Estimates*, Bulletin 2254, 1986). The statistically average secondary school teacher is a female, age 38, with a yearly current salary of \$34,838 (Wisconsin State Board of Education), and with also 19 years of FTE work-life remaining (U.S. Dept. of Labor, Bureau of Labor Statistics, *Worklife Estimates*, Bulletin 2254, 1986).

These discounted present values are then compared with the DPV of the income that this "average" female would earn if she could no longer work as a teacher, *i.e.*, in her next best alternative employment (on average), given her educational background. A reasonable opportunity cost for the teachers, appears to be approximately \$29,997.82, which is the average 1993 starting salary for a new college graduate (Statistical Abstract of the United States, 1994, Table 289). As a practical matter, if a teacher were to become unemployed, she could reasonably be expected to viably compete with recent college graduates because of the maturity and experience she could bring to the job.

The discounted present values are calculated using a discount rate of 5.2%, which represents the long term, post-1951, average annual interest rate yield on 13-week Treasury bills. This rate is used because it represents the closest proxy in the United States for a risk-free interest rate. The growth in wages used to determine the DPV is 4.1% per year, which is an approximation of the long-term average annual inflation rate of the consumer price index (Economic Report of the President, 1995, Table B-63) since 1951.

The DPV of future earnings for the statistically average elementary school teacher who teaches the remainder of her work life is calculated to be \$585,920.81, and the discounted present value of future earnings for an average secondary school teacher who teaches the remainder of her work life is determined to be \$598,566.25. We estimate the annual income for a statistically average teacher who is no longer employed as a teacher to be competitive with an average new college graduate, after making an allowance for job experience. The average starting salary for a new college graduate is approximately \$29,997.82 (Statistical Abstract of the United States, 1994, Table 289). To allow for experience, we add a premium to the \$29,997.82 figure equal to two years of "raises" at the 4.1% annual growth rate

discussed earlier. Thus, it is assumed that the statistically average teacher could earn $\$29,997.82 \times (1.041)^2 = \$32,508.07$. The DPV of her lifetime earnings would be $\$558,534.75$. If the DPV of the future earnings of a new average college graduate is subtracted from the DPV of the future earnings of the elementary and secondary school teachers, one can determine the value of tenure to a teacher:

$$\$585,920.81 - \$558,534.75 = \$27,386.06$$

$$\$598,566.25 - \$558,534.75 = \$40,031.50$$

Thus, the value of tenure to an average elementary school teacher is $\$27,386.06$ and to an average secondary school teacher, $\$40,031.50$.

The cost of tenure per year to the taxpayers is examined next. First, the total lifetime value of tenure to the average elementary school teacher ($\$27,386.06$) is divided by the average work-life in years (19), to determine the *average* annual value of tenure to a teacher. The resulting number is multiplied by the total approximate number of Wisconsin elementary school teachers, 34,000 (Statistical Abstract of the United States, 1994, Table 245), to determine the total annual value of tenure to elementary school teachers in the state:

$$(\$27,386.06 / 19) * 34,000 = \$49,006,633.69$$

Repeating the procedure for secondary school teachers, of which there are approximately 18,900 (Statistical Abstract of the United States, 1994, Table 245), yields the total annual value of tenure to the secondary school teachers in the state:

$$(\$40,031.50 / 19) * 18,900 = \$39,820,807.90$$

These two figures, $\$49,006,633.69$ and $\$39,820,807.90$, represent the approximate total amount that the taxpayers in Wisconsin are paying indirectly per year by providing tenure for elementary and secondary school teachers, respectively. In other words, these amounts represent the value of tenure per year to the state's teachers and an effective excess benefit being paid to those teachers above their annual salaries. Thus, the taxpayers in Wisconsin, by providing elementary and secondary school teachers tenure, effectively provide a benefit worth $\$88,827,441.59$ annually.

CONCLUSIONS

This study has examined the non-wage compensation differentials between the public and private sectors in Wisconsin. It has shown, by focusing on each major category of fringe benefits and then on all fringe benefits combined, that the average levels of these benefits are higher in the public sector than in the private sector. This difference was also demonstrated through a formal statistical test, which yielded the same results: the fringe benefit levels of the public sector are higher than the levels of the private sector.

The issue of tenure was also included in this study. First, the value of tenure was calculated for primary and secondary school teachers, and then the cost of this tenure was determined for the taxpayers of Wisconsin. The figures shown in this study demonstrate that tenure imposes a burden on taxpayers in Wisconsin, *i.e.*, the salaries paid teachers are higher by the amounts shown. Nevertheless, the institution of tenure *cannot* simply be done away with. Aside from equity issues for the teachers, a unilateral elimination of tenure in the primary and secondary schools would induce a massive exodus of the best teachers and attract generally less-qualified ones. These results would clearly lead to a serious compromise of a generally good-quality, public-school system in Wisconsin.

NOTES

1 In other words,

$$\pi(Q) = R(Q) - C(Q)$$

Maximum profits require that the firm's marginal revenue equal its marginal cost:

$$R'(Q) = C'(Q)$$

and that the slope of its marginal-cost curve exceeds the slope of its marginal-revenue curve:

$$C''(Q) > R''(Q)$$

2 Personnel may be hired who are unnecessary and/or who are given compensation forms that are in excess of what the private-sector employer would pay. Moreover, government bureaucrats may form political coalitions that exert influence to hire and potentially to promote excessive compensation packages for themselves. For instance, welfare workers and administrators from the bottom of the bureaucracy all the way to its top may combine with voters who are either on the welfare rolls or who expect to be on those rolls to create a political influence (coalition) that generates upward pressure on employment and compensation for the welfare workers and administrators. Thus, politics may result in excessive non-wage compensation for government workers who support with their votes, voter coalitions, and by other means (such as campaign contributions and volunteering) the political regimes that provide them with excessive compensation.

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