



CFIB

Research



Wage Watch

A Comparison of Public-Sector and Private-Sector Wages

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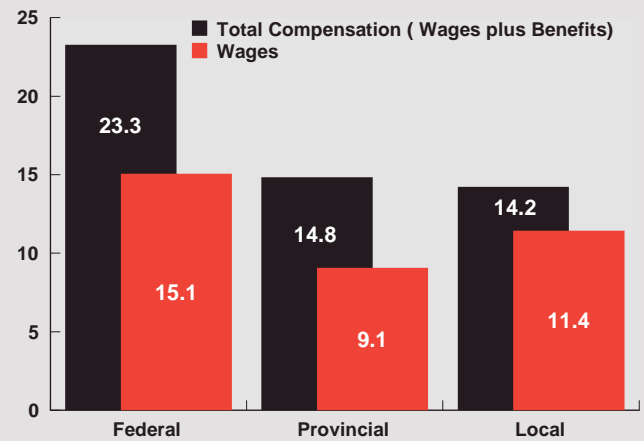
Summary

Public sector employees continue to benefit from higher wages and non-wage benefits relative to their private sector counterparts. Coupled with the large increase in public sector employment in recent years, such wage premiums exert pressure on government expenditures and can eliminate any benefits obtained from tight fiscal management in the 1990s. Moreover, wage premiums distort local labour markets as public and private employers compete to attract and retain skilled workers.

This study re-examines wage disparities between private-sector employees and those in public administration at the federal, provincial, and municipal levels. Updating CFIB's previous research, the study compares wages among occupations that are only found in both public administration and the private sector. Using Census data the study finds that, at all levels of government, wage premiums persist in favour of public administration (see Figure 1). Moreover, a significant overall increase in the wage premium favouring federal employees, over the 1995-2000 period, is found; while the premium enjoyed by provincial employees decreased and the premium paid to municipal employees remained relatively constant over the same period.

Non-wage benefits such as employer pension contributions, premiums on disability, life, and medical insurance, are examined on a national aggregate level. Although non-wage benefits, as a percentage of wages, declined in public administration employment, they remain, on average, 60 per cent higher than those of private sector employees. These benefits significantly increase the total compensation premium enjoyed by employees in public administration.

Figure 1:
Public Administration Compensation Premiums
(%, 2000)



Source 1: CFIB Tabulation of Census data, Statistics Canada

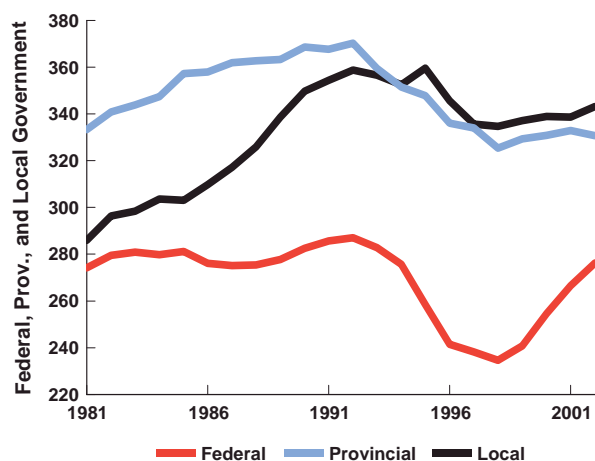
Major Findings:

- Federal employees in public administration enjoy a 15.1% wage premium over their private sector counterparts—23.3% when non-wage benefits are included
- Provincial employees in public administration enjoy a 9.1% wage premium over their private sector counterparts—14.8% when non-wage benefits are included
- Municipal employees in public administration enjoy an 11.4% wage premium over their private sector counterparts—14.2% when non-wage benefits are included
- Public administration wage premiums are highest among occupations with mid-range salaries
- Public sector employment growth is fuelled by dramatic increases in general federal government employment—up 24% since 1998
- Total wages and salaries paid to general federal government employees are up 28% since 1998—recovering the majority of cuts made in the 1990s

Introduction

The size of the public sector payroll receives much attention, as it is the largest expenditure of all levels of government. In 1992 total government employment in Canada peaked at nearly 1.2 million—consisting of 8.9 per cent of the nation's total employment (see Figure 2). Throughout the nineties, in an effort to improve fiscal positions and eliminate budget deficits, governments undertook measures to reduce public expenditures—including employment reductions through attrition, early retirements, lay-offs, and wage freezes.

Figure 2:
Government Employment ('000s, 1981-2002)



Source 2: Statistics Canada, CANSIM II Series V134831, V130106, V135231, and V135107

Since 1998, however, total public employment has increased significantly—mainly in the non-military federal public sector. According to Statistics Canada, the number of federal employees has climbed more than 20 per cent over the last four years¹. Currently, in terms of employment growth, public administration is experiencing the largest gains in Canada—6.1 per cent in the first eight months of 2003². The trend is a return to large expensive governments and increased bureaucracy.

Equally important to total employment are the wages and benefits paid to public employees relative to the private sector. Inflated wages contribute to higher payroll expenditures and, if not tempered, can offset any fiscal benefits sought from employment reductions and hiring freezes.

The significance of public sector wage premiums extends far beyond fiscal considerations. First, disparities in wages and non-wage benefits favouring the public sector distort the labour market by enticing workers to exit private sector employment (see Box 1 for sources of disparities and Box 2 for explanations to wage premiums). In competing with the public sector to attract and retain skilled labour, private sector employers are limited by market forces—a factor of no concern to public sector employers. Second, inefficiencies in the public sector can be created, or exacerbated, by wage disparities. Low senior public sector wages, for example, result in high turnover rates—of which an undesirable consequence is the loss of “corporate memory” in the public sector³.

Box 1: Sources of Disparities and Premiums

Wage disparities arise from several sources. The most common are from legitimate differences in employee characteristics, from the way employers evaluate these characteristics and, lastly, from differences in non-wage benefits.

Legitimate determinants of wage disparities include education, region, occupation, tenure and work experience of employees. They are considered legitimate since they are often associated with the level of productivity an individual offers an employer. Many studies have evaluated the extent to which the above stated factors, among others, affect the wages of individuals⁴. Wage differences favouring employees in one sector over another that do not arise from these

“legitimate” factors are considered wage premiums or economic rents.

Wage disparities also arise from how sectors value the characteristics of employees. Educational attainment, for example, may be valued differently in the private and public sectors. An individual in the public sector with an MBA, for example, may command a lower wage relative to a private sector counterpart in the same occupation. Likewise, an individual with lower educational attainment in the public sector may command a higher wage relative to a private sector counterpart. Favourable wage disparities arising from how sectors evaluate characteristics of employees in similar occupations are, therefore,

considered wage premiums or economic rents⁵.

Non-wage benefits, an important component of employee compensation, differ from one occupation to another, as well as from one industry to another. Such benefits include pension contributions made by employers on behalf of employees, various insurance plans and extended medical plans. Known as fringe benefits, they are commonly generous in the public sector, at large employers, and for employees with collective agreements. As such, they are a prime source of disparities between employer compensation packages. Economic rents, or premiums, therefore, arise when fringe benefits of occupations in one sector favour similar occupations in another.

Box 2: Explanations for premiums

Employee Characteristics: Wage disparities will occur when employee characteristics differ from one sector to another. Such a case is often cited for differences in the wages of public sector employees relative to those of the private sector, as they are, on average, older, have greater tenure and higher educational attainment. What is perceived to be a wage premium is merely a “legitimate” wage difference due to employee characteristics. However, as will be presented in the next section, researchers have found that, taking these differences into account, wage premiums still exist.

Occupational Distribution: The public service is a “top-heavy” bureaucracy. Many positions are “white-collar” occupations consisting of various fields of managerial specialization. This is in contrast to the private sector, which consists of fewer managerial positions and a wider variety of occupations. Comparing wages on an occupational basis, therefore, is much more accurate.

Structure of the Public Sector: Another contributor to wage premiums are the structural differences in which the government sector operates relative to the private sector. Private enterprises function under a competitive environment—they set wages and prices according to the market. Public employers, on the other hand, can offer higher wages since the demand for their products and services is less dependent on their costs. Pressures to increase wages, therefore, have no significant countervailing forces, such as profits, to balance.

Union Presence: Contributing to inflationary pressures on public sector wages is the large presence of unions. The majority (74 per cent) of public sector employees are represented by collective bargaining agreements—compared to 20 per cent in the private sector⁶. With no incentive to keep costs in check, such as the market mechanism, upward pressure on wages can succeed and the increases passed on to customers—in the case at hand, taxpayers.

Floor on Wages: The structure of the public sector also creates a price “floor” on wages. In attracting labour to the public sector, the minimum wage that governments can offer is the private sector wage. As a result, public sector wages are higher than what the “market” demands. Moreover, given this non-market structure and a “floor” on wages, governments, similar to private enterprise, must manage the retention of their employees. Incentives, therefore, are higher wages and non-wage benefits beyond what is offered by competitors⁷.

Model Employer: Finally, some argue that governments should excel as the model employer. That is, private sector firms should strive to offer working conditions and compensation similar to that of the public sector. However, as noted above, private employers will offer wages and benefits on the basis of market forces.

CFIB Methodology

This study measures wage disparities by comparing narrowly-defined occupations in the private sector and public administration (see Box 3 for a discussion on the different methods available). The guiding principle in selecting which occupations to compare is that they must readily be found in both the private and public sectors. The 2001 Census along with an aggregation methodology are employed to estimate wage premiums favouring the public sector.

The methodology to compute wage differentials is an index of aggregate earnings in 63 geographical areas (see Appendix A). To facilitate the comparison of public administration aggregate earnings to that of the private sector, the index is weighted by the number of employees in public administration in each geographic area. This methodology is identical to CFIB’s previous studies on wage disparities, which facilitates comparison over time.

The 2001 Census is an ideal data source since specific occupational groups (514 in total), categorized by Statistics Canada’s 1991 Standard Occupational Classification system (1991 SOC), can be obtained for several geographical regions and urban areas in Canada. Moreover, the private sector and the three levels of the public administration are readily

distinguished according to the 1997 North American Industry Classification System (1997 NAICS)⁸.

Certain occupations were individually excluded for each geographical region. These exclusions are motivated by two objectives—comparability of occupations and stability of the results. Those occupations which are not found in both public administration and the private sector, and hence not comparable, include: teachers; professors; law enforcement officers; fire fighters; military personnel; elected government officials; and senior government officials such as deputy ministers, assistant deputy ministers, and director generals⁹.

Also excluded from the analysis are those occupations which exhibit excessive wage differentials between both sectors. These outliers may skew the empirical results, making them unstable, and indicate that the occupations significantly differ from one sector to another. To further ensure stability of the estimates, only those occupations with more than 20 individuals, in a defined geographic area, are included in the analysis¹⁰.

The comparability and stability restrictions on occupations will, for each geographic region reported, decrease the number of occupations under study. At the national level, for example, the total number of

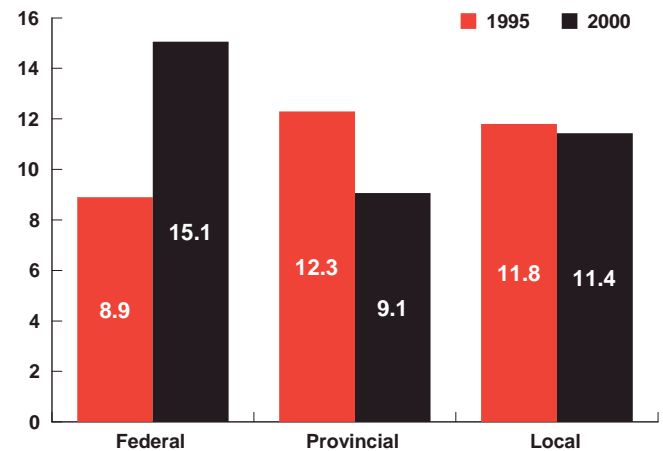
occupations employed to compute federal public administration wage premiums falls to 257, from a total of 514 under 1991 SOC. Only those geographic regions whose wage premiums were calculated from 20 or more occupation groups are reported.

Individuals with employment income, aged 15 years or older, and working full-time for a full year in 2000 are included in the analysis. Self-employed individuals, part-time employees, and seasonal workers are excluded to ensure comparability of not just occupations, but of the individuals occupying them. Since the arithmetic average of earnings is subject to instability caused by extreme outliers, the median employment earnings of each occupation are used in calculating wage premiums.

Findings on Wages and Salaries

This study focuses on the wage disparities between the private sector and the federal, provincial, and local public administration in Canada¹¹. For each level of public administration, the disparities are calculated on a national and provincial level, as well as for select metropolitan areas where the data and the methodology permits.

Figure 3:
Public Administration Wage Premiums
(%, National)



Source 3: CFIB Tabulation of Census data, Statistics Canada

An examination of the wage data in 2000 illustrates the persistence of wage premiums in favour of public administration employees at all levels of government (see Figure 3). However, the level of wage premiums among the three levels of the public sector has considerably changed since 1995.

Box 3: Measuring Wage Premiums

Wage Settlements: Wage premiums can be estimated by comparing average wage settlements in the private and public sectors. Although simple, this method has many disadvantages. First, most data sources on wage settlements follow large enterprises and organizations (over 500 employees) and, therefore, exclude the small and medium-sized business sector from the analysis. In addition, non-wage benefits, such as pension contributions by employers, are often excluded.

Indirect indicators: Average tenure of employees and the ratio of job applications to overall employment are common indirect indicators of wage premiums. A high average employee tenure and a high application/workforce ratio are indications, some argue, of superior wages and benefits offered by employers. However, these indicators are crude and are valid only in the strictest context of economic theory—which states that workers will stay in jobs that pay the highest wages and benefits. As with average wage settlements, these indirect

indicators are simple, but carry a large disadvantage.

Econometric Estimation: Common in academic research, is the application of econometric techniques to estimate differences between public and private sector wages. These approaches involve the formulation and estimation of the underlying processes—or equations—that set wages in the labour market. The benefit is that the impact of wage determining characteristics, such as education, tenure, training, etc., along with other factors are taken into account. As such, wage disparities arising from differences in employee characteristics can be determined. These disparities, as discussed above, arise from legitimate factors and are employed to isolate illegitimate wage premiums—economic rents.

Empirical results using these econometric approaches consistently conclude that there are economic rents, or wage premiums, in favour of public sector employees at all levels of government in Canada. Researchers have found that

Canadian public sector wage premiums have ranged between 5 and 14 per cent over the last fifteen years¹². The most recent study, by Gunderson et al. (2000), using 1997 data, finds a nine per cent premium in favour of the public sector.

Occupational Comparison: A balance between the complexity of the above academic approach and the simplicity of the former is obtained by comparing wages of narrowly-defined occupations to estimate wage premiums. Researchers have employed this approach in the past to evaluate wage premiums for specific occupations in the public and private sector¹³.

The advantage of this approach is that it does not require the estimation of the underlying process determining employee wages. Wage comparisons are restricted to similar occupations found in both the public and private sector. The underlying assumption is that job requirements are the same in both sectors and, therefore, employee characteristics can be ignored in the analysis¹⁴.

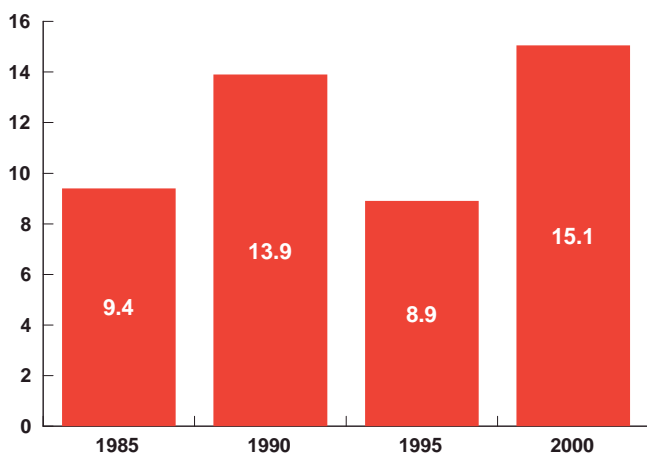
Specifically, the highest wage advantage is now found in federal public administration, which stood at 8.9 per cent in 1995 and is now 15.1 per cent. Provincial public administration, then accounting for the highest wage premium in 1995, at 12.3 per cent, now has the lowest public sector wage premium at 9.1 per cent. The wage premium in favour of local public administration workers remains stable, but at the high rate of 11.4 per cent in 2000.

The next section presents details of federal, provincial, and municipal public administration wage disparities, as well as a comparison over time based on CFIB’s previous studies—all of which employed the same methodology presented above and Census data for the years presented.

Federal Public Administration

The relationship between federal public administration and private sector wages has been well documented by many authors in the past, including CFIB, which first studied the issue in 1992. To date, wage premiums favouring public administration continues to persist at the federal level (see Figure 4).

Figure 4:
Federal Public Administration Wage Premium (% National)



Source 4: CFIB Tabulation of Census data, Statistics Canada

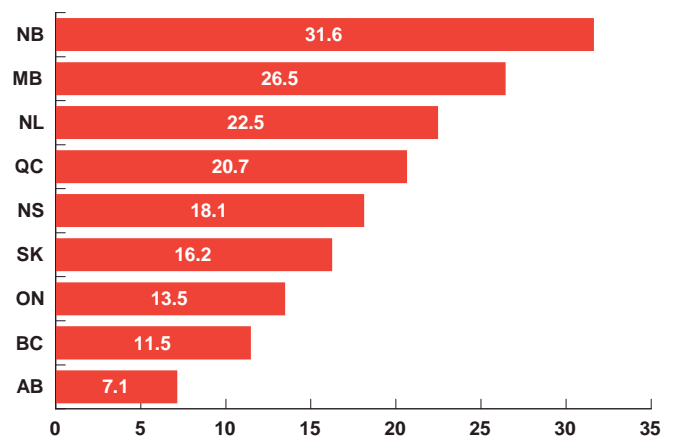
During the 1980s, federal public administration wage premiums increased and, by the beginning of the 1990s, peaked at 13.9 per cent. These premiums declined throughout the deficit-fighting years of the mid 1990s—due in part to a six-year wage freeze and large reductions in federal government employment. Although federal public wage premiums fell to 8.9 per cent by 1995, they dramatically increased to 15.1 per cent in 2000.

Common to both the private sector and federal public administration, in 2000, were 257 occupations (see Appendix B). The average full-time federal wage was \$47,887 (expressed in current 2000 dollars) compared to \$41,492 for the same set of occupations in the private sector. This comparison is based on 174,360 federal public employees and 4.4 million employees in the private sector.

Wage premiums favouring public administration are commonly found in business, finance, and administration occupations. Clerical occupations, for example, are paid, on average, 27 per cent more than their private sector counterparts. Electrical trades and telecommunications occupations, on the other hand, typically earned 85 per cent of the wages earned by their private sector counterparts.

Federal public administration wage premiums substantially differ across the country (see Figure 5). Currently, the highest premiums are found in New Brunswick and Manitoba—both with premiums greater than 25 per cent. The lowest federal premiums are found in Alberta (7.1 per cent), British Columbia (11.5 per cent) and Ontario (13.5 per cent). Prince Edward Island is not reported since the results do not meet the minimum requirements laid out by the estimation methodology¹⁵.

Figure 5:
Federal Public Administration Wage Premium (% by province)



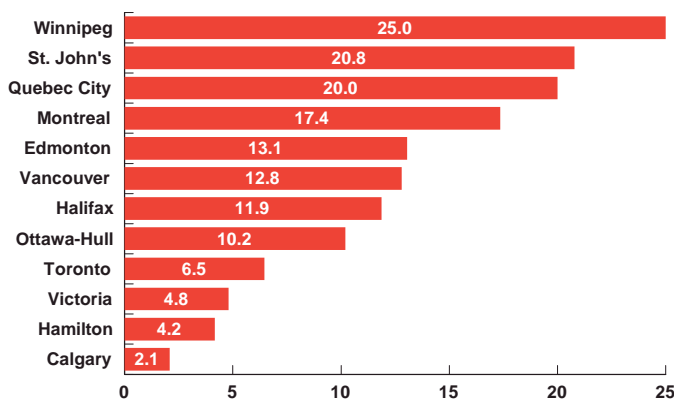
Source 5: CFIB Tabulation of Census data, Statistics Canada

While all provinces experienced increases in federal public administration wage premiums over the 1995-2000 period, the largest increases were in British Columbia, Newfoundland and Labrador, and New Brunswick—all with over 100 per cent increases in premiums (see Appendix B). For its part, British Columbia, currently exhibiting one of the lowest wage

premiums, by far experienced the largest increase since 1995—jumping from 1.8 per cent to 11.5 per cent in 2000. Not far behind are Ontario and Manitoba with increases of over 90 per cent relative to those observed in 1995. The lowest premium increase was experienced in Saskatchewan.

By metropolitan region, the highest federal public administration wage premium is found in Winnipeg, at 25 per cent (see Figure 6), which had one of the highest premiums in 1995. Not far behind are St. John's and Quebec City at 20.8 and 20 per cent respectively. The lowest premiums are found in Calgary, at 2.1 per cent, followed by Hamilton and Victoria at 4.2 and 4.8 per cent respectively.

Figure 6:
Federal Public Administration Wage Premium (% , select cities)



Source 6: CFIB Tabulation of Census data, Statistics Canada

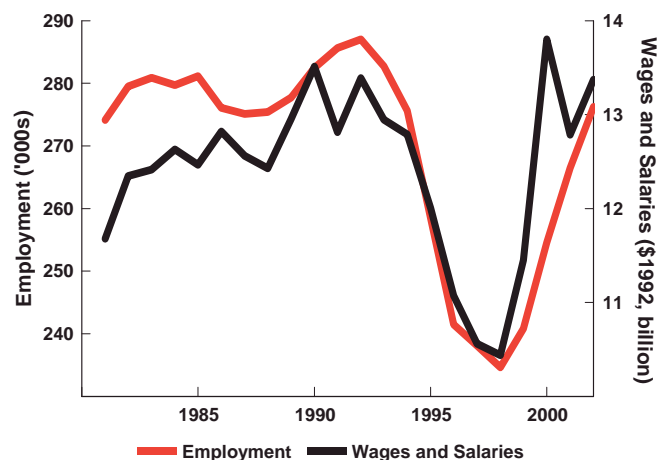
Vancouver's wage premium increased the most since 1995—from a 1 per cent premium in favour of the private sector to nearly 13 per cent in favour of public administration in 2000. Although Toronto's federal wage premium, 6.5 per cent in 2000, is low relative to most cities under study, it experienced the second largest increase since 1995—when it stood at 1.7 per cent (see Appendix B). Only Victoria and Calgary experienced declines in federal wage premiums over the 1995-2000 period. Interestingly, in the Ottawa-Hull region, where the federal government is most concentrated, the wage premium remained relatively unchanged at just about 10 per cent.

Summary: Federal public administration wage premiums persist and have substantially increased since 1995. Despite the apparent efforts by government¹⁶, the trend is not towards the elimination of the wage premiums. Rather, a systematic pattern is observed, whereby premiums increase in periods of

federal employment expansion and decrease in times of employment reduction.

In addition to the significant increases in federal public administration wage premiums since 1995, the federal public service has increased its workforce by over 20 per cent from 1998 to the first quarter of 2003—reversing the cuts made in the mid-1990s and driving overall public sector employment growth. The federal public sector, since 2000, has been the fastest growing employment sector in Canada. As a result, total federal government wages and salaries increased by more than 28 per cent¹⁷ from 1998 to 2002 (see Figure 7)¹⁸.

Figure 7:
Federal Government Employment, Wages and Salaries



Source 7: Statistics Canada, CANSIM II Series V134831, V737311, V130106, V130121 and V134861

Ballooning wages, excessive non-wage benefit packages, and countless employment perks: strong descriptors of what critics expose of the federal public sector and, as the above shows, not without merit. No longer implausible is the view of a growing bureaucracy and big government. There is cause for concern. Increased federal public administration wage premiums, especially in those regions widely benefiting, threaten the efficient operations of the labour market. Moreover, the effects on total government spending will no doubt impact Canada's international competitiveness. If a large federal public sector impeded Canada's economy in the last decade, it will most certainly do so in the near future.

Provincial Public Administration

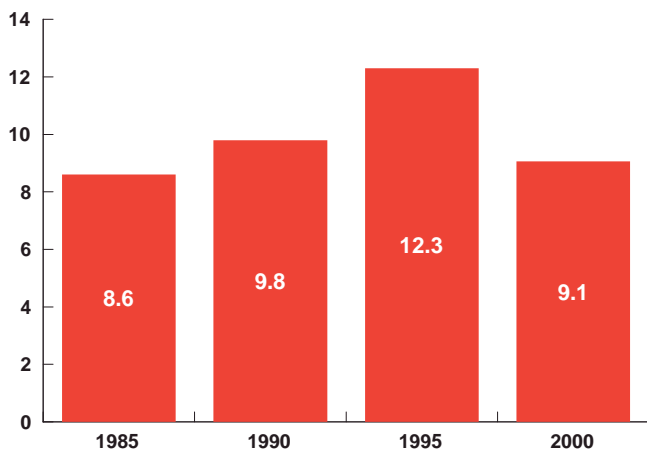
In contrast to its federal counterpart, wage premiums favouring provincial public administration did not decrease during the 1990s. Although total

employment in the sector declined (see Figure 2), wage premiums increased to 12.3 per cent, from 1990 to 1995—the highest among governments at all levels. Over the 1995-2000 period, provincial wage premiums decreased below those observed in 1990. Nationally, in 2000, provincial public wage premiums stood above 9 per cent (see Figure 8).

The average full-time provincial public administration wage in 2000 was \$44,543 (expressed in current 2000 dollars) compared to \$41,368 for the same set of occupations in the private sector. This national comparison is based on 232 occupations found in both sectors in 2000—consisting of 144,420 provincial employees and 4.2 million private employees (see Appendix C).

Wage premiums favouring provincial public administration are commonly found in business, finance, and administration occupations. Finance and insurance administrative occupations, for example, are paid, on average, 10.5 per cent more than their private sector counterparts. Electrical trades and telecommunications occupations, on the other hand, typically earned 89.8 per cent of the wages earned by their private sector counterparts.

Figure 8:
Provincial Public Administration Wage Premium (% , national)

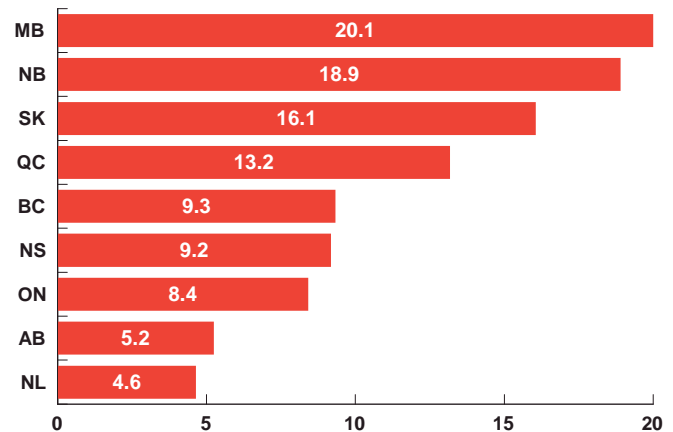


Source 8: CFIB Tabulation of Census data, Statistics Canada

Provincial public administration wage premiums varied substantially from one province to another in 2000 (see Figure 9). The largest premium is found in Manitoba, at 20.1 per cent; closely followed by New Brunswick, with a premium of 18.9 per cent. The lowest wage premiums are found in Ontario at 8.4 per cent; followed by Alberta, at 5.2 per cent; and Newfoundland and Labrador at 4.6 per cent.

Although provincial wage premiums declined from 1995 to 2000, on a national scale, Quebec and Ontario were the only provinces who experienced significant declines in wage premiums. Nevertheless, their premiums remain at 13 and 8 per cent respectively. Premiums in Nova Scotia and British Columbia are relatively unchanged in 2000 compared to 1995.

Figure 9:
Provincial Public Administration Wage Premium (% , by province)



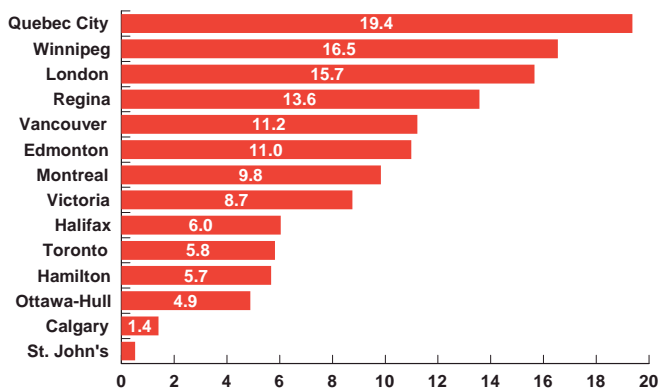
Source 9: CFIB Tabulation of Census data, Statistics Canada

Newfoundland and Labrador, despite having the lowest wage premium in 2000, experienced the largest increase over the 1995-2000 period—jumping from a 2.8 per cent premium in favour of the private sector to a 4.6 per cent premium in favour of provincial public administration. Saskatchewan and Manitoba closely follow with relatively significant increases in premiums over the same period (see Appendix C). Prince Edward Island is not reported since the results do not meet the minimum requirements laid out by the estimation methodology¹⁹.

By metropolitan region, the largest provincial premiums are found in Quebec City at 19 per cent; followed by Winnipeg at 16.5 per cent and Regina at 13.5 per cent (see Figure 10). The lowest premiums are found in St. John’s, at 0.5 per cent; followed by Calgary and the Ottawa-Hull region at 1.4 and 4.9 per cent respectively.

St. John’s and Calgary experienced the largest increases in premiums over the 1995-2000 period when measured in percentage change. However, their provincial public administration wage premiums, in 2000, are relatively close to zero—an indication that provincial wages in these two cities are relatively at par with those of the private sector.

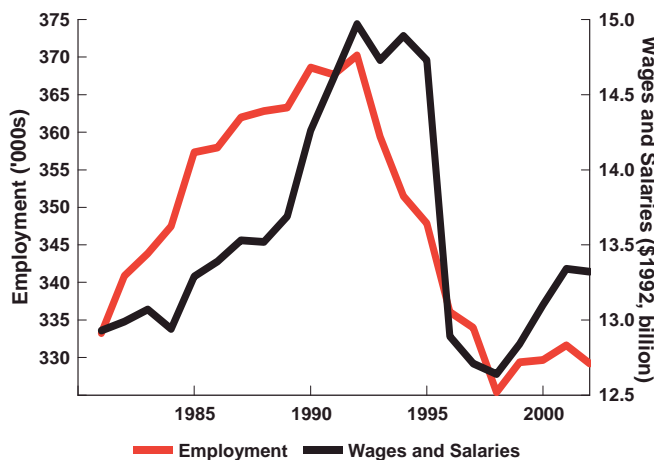
Figure 10:
Provincial Public Administration Wage Premium (% , select cities)



Source 10: CFIB Tabulation of Census data, Statistics Canada

These two cities aside, Regina, with provincial public administration wage premium of 4.2 per cent in 1995, experienced the largest premium increase over the ensuing five year period. Halifax and Edmonton follow behind with 100 per cent increases in premiums over the same period. Toronto and the Ottawa-Hull region experienced the largest decline in premiums.

Figure 11:
Provincial Government Employment, Wages and Salaries



Source 11: Statistics Canada, CANSIM II Series V135231, V737311 and V135294

Summary: The above results are consistent with the employment trend illustrated in Figure 2, above, as most provincial governments continued to exert fiscal prudence. A steady level of provincial sector employment, relative to the increase experienced in the federal sector, may be contributing to the reduction of wage premiums at the national level. In other words, less demand for labour by employers

reduces upward pressure on wages and, hence, wage premiums. Individual employment trends in each province may confirm this hypothesis.

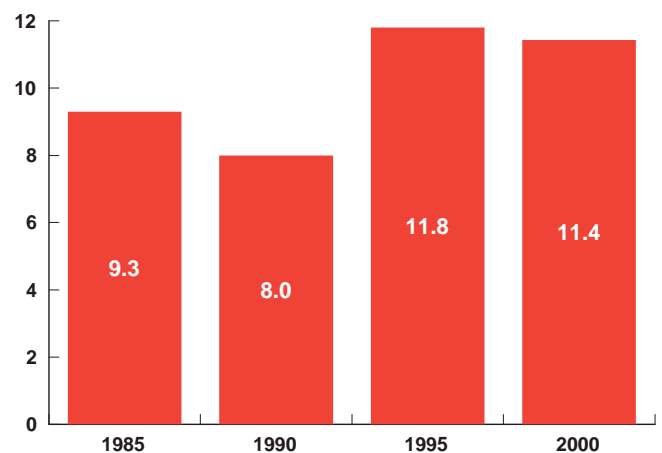
Notice should also be given to the growing wages and salaries paid to provincial public employees (see Figure 11). Although provincial public sector employment levels, on a national scale, remain relatively steady, there have been large increases in total wages and salaries paid. As provincial wage premiums declined over the 5 year period (Figure 8, above), the spike may stem from one or two select provinces.

Local Public Administration

Local public administration employees have long received wage premiums relative to their private sector counterparts. There exists much scrutiny over the cost of local government as consumer and business taxpayers observe increases in taxes and/or reduction in services.

Wage premiums favouring local public administration employees decreased slightly over the 1995-2000 period—contrasting with changes in federal and provincial premiums over the same period. Moreover, these premiums significantly increased in 1995, during a period of reduced transfer payments from provincial governments. As of 2000, the local public wage premiums remained relatively unchanged at 11.4 per cent (see Figure 12).

Figure 12:
Local Public Administration Wage Premium (% , national)



Source 12: CFIB Tabulation of Census data, Statistics Canada

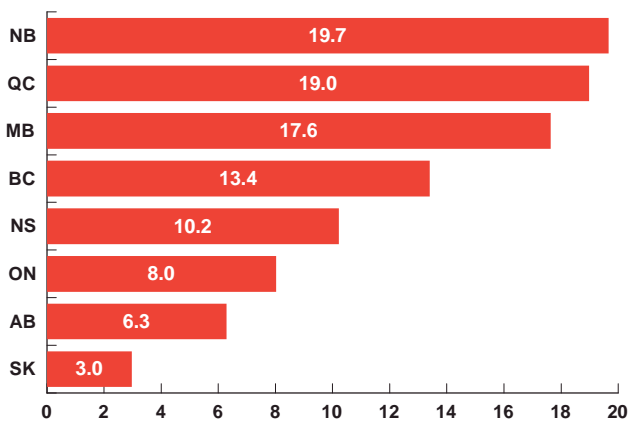
These results are based on a total of 221 comparable occupations readily found in both the private sector and local public administration. The average wage of

the 109,395 local public administration employees in these occupations was \$43,534 (expressed in current 2000 dollars). This compares to an average wage of \$40,016 for the 3.9 million private employees in the same occupations.

Wage premiums favouring local public administration are commonly found in trade related occupations. Construction trades, for example, are paid, on average, 18.3 per cent more than their private sector counterparts. Managerial occupations in retail trade, on the other hand, typically earned 92 per cent of the wages earned by their private sector counterparts.

Local public administration employees enjoy wage premiums in all provinces (see Figure 13). New Brunswick exhibits the largest local public wage premium at 19.7 per cent, and is closely followed by Quebec and Manitoba at 19 and 17.6 per cent respectively. The lowest premiums are found in Saskatchewan, at 3 per cent; Alberta, at 6.3 per cent; and Ontario, at 8 per cent. Prince Edward Island and Newfoundland and Labrador are not reported since the results do not meet the minimum requirements laid out by the estimation methodology²⁰.

Figure 13:
Local Public Administration Wage Premium (%
by province)

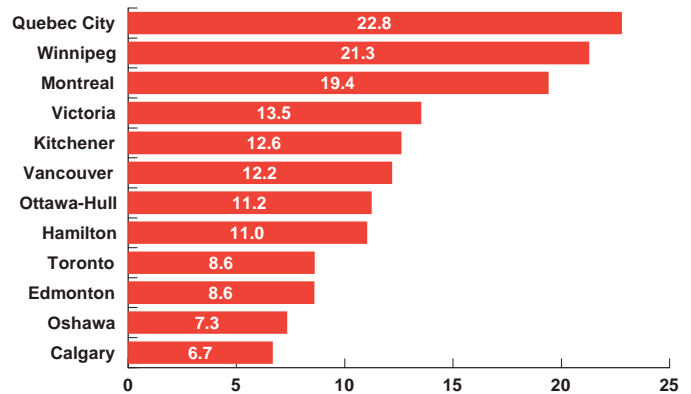


Source 13: CFIB Tabulation of Census data, Statistics Canada

The largest wage premium increase was experienced by Nova Scotia—from 4.9 per cent in 1995 to 10.2 per cent in 2000. New Brunswick and Manitoba are not far behind—both experiencing a 45 per cent increase from their 1995 wage premiums. Saskatchewan, on the other hand, experienced a 50 per cent drop in its local public administration wage premium over the same period, while Alberta’s dropped by nearly a third.

At the municipal level, local public administration wage premiums differ from one region to another (see Figure 14). With the largest premiums (over 20 per cent) Quebec City and Winnipeg are closely followed by Montreal with a 19.4 per cent premium. The lowest premiums are found in Calgary and Oshawa at 6.7 and 7.3 per cent respectively.

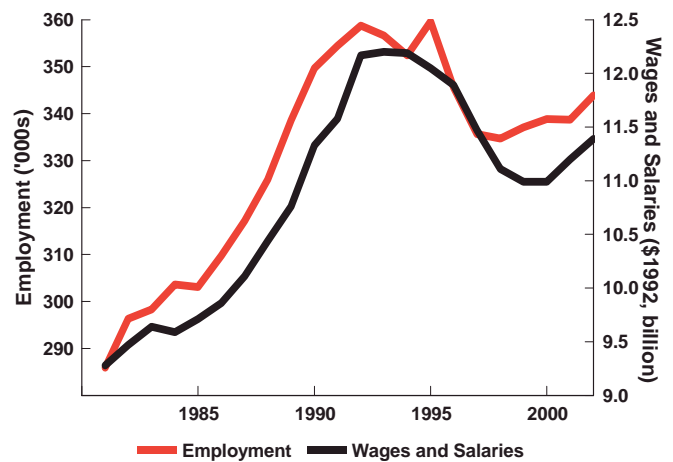
Figure 14:
Local Public Administration Wage Premium (%
select cities)



Source 14: CFIB Tabulation of Census data, Statistics Canada

Summary: Local public administration wages in Canada remain well above those of their private sector counterparts. These local public administration wage premiums persistently occur in most metropolitan regions and increase with higher local government employment growth.

Figure 15:
Local Government Employment, Wages and Salaries



Source 15: Statistics Canada, CANSIM II Series V135107, V737311 and V135122

Relative to the federal and provincial sectors, employment in the local public sector declined a

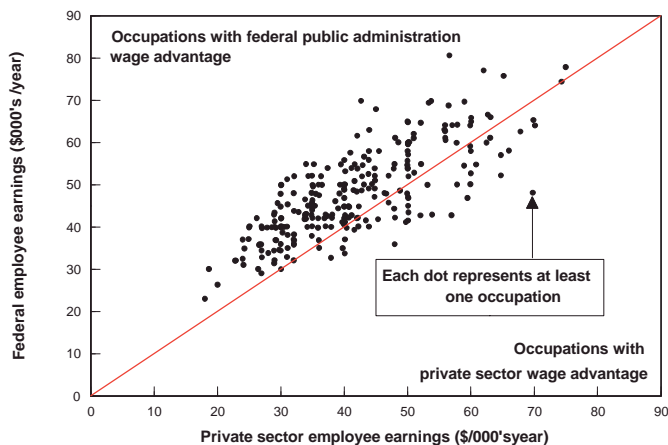
modest 6.7 per cent from 1992 to 1998. This modest decrease suggests that local governments faced lower pressure to reduce wage premiums. Moreover, the decreases in employment and total wages and salaries paid came after 1995 (see Figure 15). Recent increases in local public sector employment may be the result of growing municipalities keeping pace with greater demand for public services or less focus on cutbacks in a better economic environment.

Responsibility for local public wage premiums may rest with all levels of government. At the local level, governments must maintain an efficient level of employment and wages to provide public services. However, in transitioning responsibility of services to municipalities, provincial governments must be mindful that, regardless of appropriate financial transfers, wages may be affected. Greater responsibilities yield greater pressure to hire and, as we have seen at the federal level, increase wage premiums.

Overall Relationship of Earnings

The majority of occupations found in both the private sector and public administration, in 2000, show wage premiums favouring public employees. Nationally, over 70 per cent of occupations have wage premiums favouring provincial and local public administration. In federal public administration, 82 per cent of occupations have wage advantages relative to their private sector counterparts.

Figure 16:
Earnings: Federal Public Administration vs. Private Sector (\$, 2000)



Source 16: CFIB Tabulation of Census data, Statistics Canada

The relationship between federal public administration and private sector wages, at a national level, is illustrated in Figure 16. All 257 comparable

occupations in 2000 are represented by an individual point on the chart. Along the vertical axis is the median wage of each occupation in federal public administration. Conversely, along the horizontal axis, is the median wage for the same occupation in the private sector. Those occupations, or points, which rest above the 45 degree line are earning a federal wage premium. Points below the 45 degree line are those occupations earnings a private sector wage premium.

Figure 16 illustrates that the majority of occupations (82 per cent) are above the 45 degree line—indicating that they earn wage premiums in federal public administration. Similar results occur when charting the median wages of occupations in the private sector versus comparable occupations in local and provincial public administration. These wage premiums appear systematic and, therefore, are not likely the result of data specification errors or mistakes in survey completion.

Non-Wage Benefits

Forms of deferred wages, pensions, along with other paid non-wage benefits, such as the employer-paid portions of extended health, life insurance, and disability premiums, are an integral part of an employee’s total compensation. Eighty-two per cent of employees in public administration, for example, receive retirement benefits, compared to 38 per cent of private sector employees²¹. As such, a comparison of public and private sector wages should incorporate the analysis of these benefits.

Census data, however, does not provide information on employer paid non-wage benefits. Statistics Canada’s measure of Supplementary Labour Income (SLI), from the system of national accounts, is an alternative approximate measure, as it records the funds paid out by employers for pensions and insurance premiums. The drawback, however, is that SLI data is not as geographically detailed as Census data. Nonetheless, SLI data distinguishes those benefits, in aggregate, between public administration and the private sector. As such, a national estimate of non-wage benefits can be made.

Comparable measures are obtained by expressing paid non-wage benefits as a percentage of wages and salaries for the private sector and public administration. A premium in favour of public administration, for paid non-wage benefits, will exist if these benefits represent a larger proportion of total employee compensation relative to the private sector.

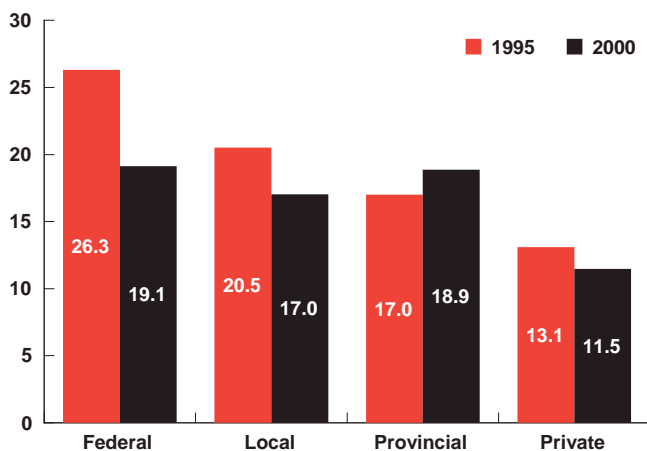
In addition to paid non-wage benefits there often exists many non-pecuniary benefits available to employees. Such unpaid non-wage benefits include preferable work arrangements, the amount of paid sick, personal, and vacation leave granted, and the amount of hours worked in a week. Although most unpaid non-wage benefits are difficult, and often impossible, to estimate, Statistics Canada’s Labour Force Survey provides an approximate indication of such benefits enjoyed by employees at the national level.

Results: Paid Non-Wage Benefits

An analysis of Statistics Canada’s Supplementary Labour Income (SLI) data for the year 2000 shows that employer-paid non-wage benefits continue to remain higher in public administration relative to the private sector. That is, a public sector premium for non-wage benefits exists (see Figure 17).

The highest paid non-wage benefits, as a percentage of total wages and salaries, are found in federal public administration. Federal employees received benefits valued at 19.1 per cent of their total wages and salaries—compared to the 26.3 per cent in 1995. Provincial employees in public administration received 18.9 per cent on top of their wages in the form of paid benefits—up from 1995. Not far behind are municipal employees in public administration, receiving 17 per cent of wages and salaries in the form of pension contributions, insurance premiums, etc.

Figure 17: Non-Wage Benefits, Public Administration and Private Sector (% of wages paid, National)



Source 17: 1995/2000 Supplementary Labour Income, Statistics Canada

Well below the paid benefits of employees in public administration are those of the private sector—11.5

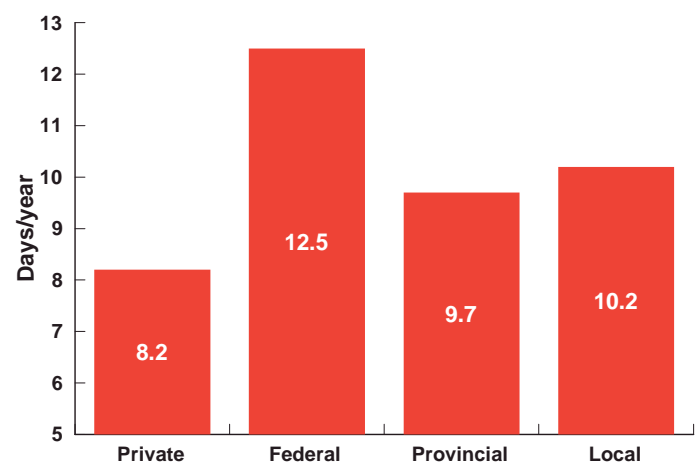
per cent of wages and salaries paid in 2000. Public administration employees, therefore, enjoy a paid benefits premium relative to private sector employees. Federal public employees receive 67 per cent more in paid non-wage benefits, while provincial and municipal employees receive 65 per cent and 49 per cent more respectively.

Summary: The presence of paid non-wage benefit disparities favouring public administration, some argue, is an incentive for public servants to accept lower salary and wages. Moreover, larger non-wage benefits facilitate the deferral of compensation and are an effective tool for government fiscal management. However, the results of the previous sections contradict the need for such disparities in non-wage benefits.

Results: Unpaid Non-Wage Benefits

According to Labour Force Survey estimates, full-time employees in public administration log more time off work for illness and/or personal leave relative to the private sector—11.7 days, on average, compared to 8.2 days²². Figure 18 illustrates average annual absence rates in 2002. Employees in federal public administration, on average, had 12.5 days off work for personal and illness leave, while provincial and local public administration employees had an average of 9.7 and 10.2 days off work respectively.

Figure 18: Average Absence rates for full-time paid workers Private Sector Vs. Public Administration

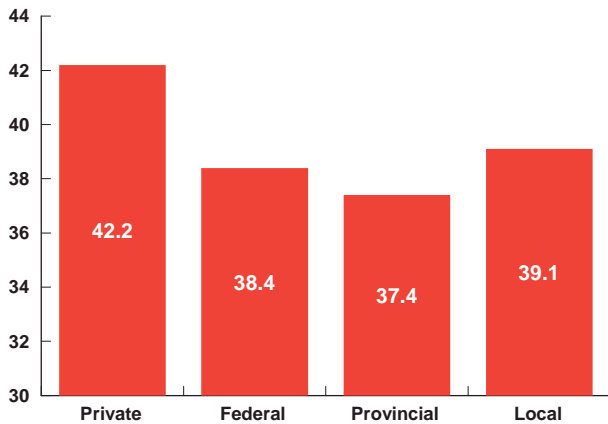


Source 18: Labour Force Survey, 2002

These figures are not insignificant. For the example, the difference of 4.3 absent days, on average, between the private sector and federal public administration translates into \$792 worth of additional benefits to

federal employees in public administration²³. Although these figures are indirect measures of non-wage benefits, it lends substance to those arguing that non-wage benefits, if incorporated, significantly increase the total premiums enjoyed by public sector employees.

Figure 19:
Average Usual Hours Worked in (2000, hrs/week)



Source 19: Labour Force Survey, November 2000

Another indirect measure of unpaid non-wage benefits is the usual amount of time employees spend at work to earn their incomes. In aggregate terms, the average usual workweek in 2000 was found to be less in public administration relative to the private sector (see Figure 19). While the private sector worked an average of 42.2 hours a week, those in federal public administration worked an average of 38.4 hours; provincial public administration employees, 37.4 hours; and local public administration employees, 39.1 hours. The average 4.8 hours difference between the private sector and provincial public administration employees translates into an unpaid non-wage provincial sector benefit valued at \$649 relative to the private sector²⁴.

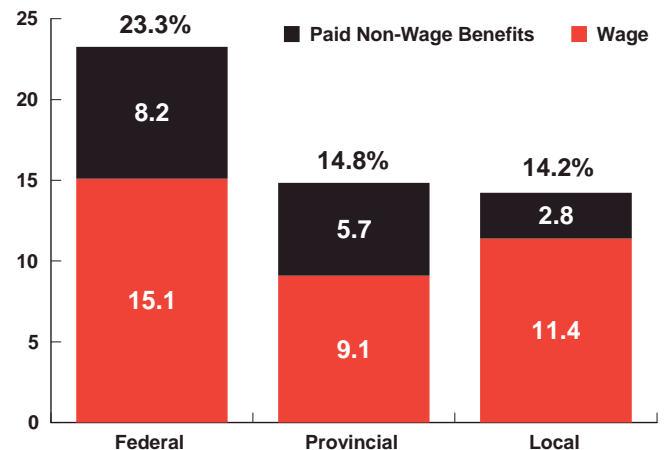
Summary: Unpaid non-wage benefits, though often difficult to calculate, are an important component of total employee compensation. The preceding examples for sick/personal leave and usual hours, combined, are valued at an additional 1.4 per cent (\$605) of benefits in favour of local public administration, 2 per cent (\$906) in favour of provincial public administration, and 2.6 per cent (\$1,219) in favour federal public administration.

Aggregated Compensation Premium

The results of computing premiums on the total paid compensation packages of employees in public

administration, on a national scale, are presented in Figure 20. This total premium consists of wage and paid non-wage benefits. Premiums from unpaid non-wage benefits are often difficult to measure and are not included. The previous section, however, indicates that, by accounting for unpaid non-wage benefits, an additional 2 percentage points to the total compensation premium in Figure 20 is well within the bounds of possibility.

Figure 20:
Total Compensation Premium in 2000 (% National)



Source 20: 2000 Supplementary Labour Income, CFIB Tabulation of Census data, Statistics Canada

Federal public administration continues to exhibit the largest premium, relative to the private sector. The total compensation premium for federal employees is 23.3 per cent for the year 2000; of which 8.2 percentage points arise from paid non-wage benefits.

The gap between provincial and local public administration wage premiums is significantly reduced when paid non-wage benefits are included. The premium to provincial public administration increases 5.7 percentage points to 14.8 per cent while the premium favouring local public administration increases 2.8 percentage points to 14.2 per cent.

Conclusions and Recommendations

Disparities between private sector and public administration wages persist in favour of all levels of government. The highest wage premiums are found in federal public administration at 15.1 per cent—23.3 per cent when non-wage benefits are included. This represents a 68 per cent increase from those premiums found in 1995 (13.9 per cent). Although provincial public administration wage premiums declined, on a national level, they remain relatively high at 9 per

cent—14.8 per cent when non-wage benefits are included. Wage premiums favouring local public administration remain relatively unchanged from 1995 at 11.4 per cent—14.2 per cent when non-wage benefits are included.

In addition to persistently high disparities favouring public administration, this study finds that the recent upward trend in total wages and salaries paid out by governments and total government employment is cause for concern. The greatest concern stems from the wages and salaries of general federal government employment—up 28 per cent since 1998. Less dramatic increases, yet still significant, in total provincial and local public administration wages paid should be further investigated.

These private administration wage premiums and increases in government payrolls have significant negative impacts on local economies as well as on Canada's economy as a whole. As stated at the outset of this report, wage disparities disrupt local labour markets and the overall competitiveness of private enterprise. In addition, excessive public wages and non-wage benefits inflate overall government spending at the expense of taxpayers.

Measures must be taken to minimize the negative impacts of wage differentials. In this respect, guided by three principles—transparency, public debate, and accountability—CFIB sets out the following recommendations:

Develop a comprehensive database on public/private wages and non-wage benefits. There is currently insufficient data available in a timely fashion to conduct wage comparisons. Of particular importance is the need to provide detailed information on employer-paid pension contributions and other non-wage benefits. Such a database should include all types of occupations in all industries, regardless of the size of employer.

Periodically measure wage disparities between public and private sector occupations. Independent assessments of wage disparities should be conducted on a periodical basis and made readily available to government employers and collective bargaining units.

Publicly disclose wage/non-wage benefit disparities. Disclosure of the above recommended independently assessed disparities creates accountability of government employers and bargaining units to taxpayers who are, ultimately, the shareholders and customers of the public sector.

Ensure that public sector wage/non-wage benefit adjustments occur in response to market forces. Free labour market forces should determine the levels of wages and benefits as opposed to governments and collective bargaining units.

Promote public debate on balancing public and private sector wages. For those occupations earning premiums in the public sector, wages should remain stable until formal public debate occurs and measures are in place to minimize the impacts of public sector wage premiums.

Review policies that provide uniform occupational pay scales. Public occupational compensation packages, in following market forces, should account for local market conditions and cost of living. Uniform occupational pay scales will overpay employees in some local markets and underpay them in others.

Review policies to ensure public employees' compensation takes into account individual and organizational performance. In servicing taxpayers public employee compensation must adjust according to performance. Therefore, a review of how goals, objectives, and performance are defined becomes of prime importance.

Appendix A:

Empirical Methodology: Comparison of Narrowly-Defined Occupations

Population:

Persons 15 years of age and over with 2000 employment income who worked full time, full year in 2000. Full-time employment is defined as 30 hours or more per week; full-year employment is defined as 49 weeks or more per year.

Sector and Occupation Definitions:

Occupations found in both the public and private sector were selected from a total list of 514 occupations groups as defined in the 1991 Standard Occupational Classification (SOC 1991) system.

The 4 industry groups are based on the 1997 North American Industrial Classification System (NAICS)

- Federal public administration
- Provincial public administration
- Local/Municipal public administration
- Private sector (all remaining NAICS excluding federal public administration; provincial public administration; local public administration; education; health and social services; and utilities).

Areas:

63 geographical areas in total: Canada, the provinces/territories and select Census Metropolitan Areas (CMAs) and Census Agglomerations (CAs).

Variables:

- i = The i th occupation from a total list of 514 SOC categories.
- j = The j th geographic area from a total list of 63 categories
- $G\#_{ij}$ = Number of public administration employees in occupation i and residing in geographic area j .
- $P\#_{ji}$ = Number of private-sector employees in occupation i and residing in geographic area j .
- $Gm\$_{ij}$ = Median employment earnings of public administration employees in occupation i and residing in geographic area j .
- $Pm\$_{ij}$ = Median employment earnings of private-sector employees in occupation i and residing in geographic area j .

Data Filtering:

Data which meets the following criteria are to be excluded in computing wage differentials as to omit statistical outliers²⁵:

1. If $G\#_{ij} < 20$ or $P\#_{ji} < 20$
2. If $0.6 > Gm\$_{ij} / Pm\$_{ij} > 1/0.6$

Aggregation Method:

The computation of wage differentials between the private-sector and public administration is based on a Paasche index (I) as follows:

$$I_j = \frac{\sum Gm\$_{ij} \times G\#_{ij}}{\sum Pm\$_{ij} \times G\#_{ij}} \times 100$$

The value $Gm\$_{ij} \times G\#_{ij}$, for example, represents the median earnings in public administration weighted by the number of persons working in public administration. This value is computed for each occupation for each level of public administration (federal, provincial, and local). The total value of the earnings in each level of public administration for all occupations is therefore the sum of $Gm\$_{ij} \times G\#_{ij}$ (or $\sum Gm\$_{ij} \times G\#_{ij}$). Taking the ratio of this value to the total value of employing the same number of workers at the median earnings level in the private sector (i.e., $\sum Pm\$_{ij} \times G\#_{ij}$) results in the above-noted Paasch index. **The actual wage differential is I-100.**

Hence, if $I-100 > 0$ (or $I > 100$), there is a wage advantage in favour of those occupations in public administration. Similarly, if $I-100 < 0$ (or $I < 100$), the wage advantage is in favour of private-sector occupations.

*Appendix B:***Federal Public Administration vs. Private Sector Annual Earnings**

Region	Private Sector			Public Sector		Public Sector Wage Premium			
	Occupations (#)	Employment ('000s)	Earnings (\$)	Employment ('000s)	Earnings (\$)	1985 (%)	1990 (%)	1995 (%)	2000 (%)
CANADA	257	4,436,310	41,492	174,360	47,887	9.4	13.9	8.9	15.1
NEWFOUNDLAND AND LABRADOR	35	9,050	40,980	2,480	45,814	13.9	19.8	11.2	22.5
St. John's	21	4,555	41,670	1,210	47,345	15.1	11.5	7.9	20.8
PRINCE EDWARD ISLAND	8	1,310	34,608	590	40,420	25.8	18.8	17.9	27.9
NOVA SCOTIA	92	53,205	39,368	7,380	46,106	11.3	15.4	11.9	18.1
Halifax	73	22,385	41,957	5,065	46,922	8.4	12.9	6.0	11.9
NEW BRUNSWICK	52	30,505	36,091	3,530	44,861	14.8	15.7	15.1	31.6
Moncton						17.4	19.5	14.6	n/a
QUEBEC	159	724,795	40,448	34,560	46,710	10.3	17.6	13.1	20.7
Quebec City	63	36,610	38,595	3,110	45,515	8.4	11.3	12.6	20.0
Montreal	76	258,880	42,344	7,645	48,173	7.7	15.1	11.8	17.4
Ottawa-Hull	142	114,005	45,372	56,420	52,259	12.5	15.6	9.5	10.2
ONTARIO	199	1,560,390	44,205	73,025	49,939	13.1	14.8	7.0	13.5
Toronto	74	477,650	45,703	8,985	50,316	9.8	6.5	1.7	6.5
Hamilton	19	17,360	46,540	770	49,432	n/a	5.9	2.5	4.2
London								3.3	n/a
Kingston								19.5	n/a
MANITOBA	75	71,450	36,506	6,510	44,745	16.7	23.0	13.8	26.5
Winnipeg	56	41,945	37,726	5,275	45,705	17.4	23.7	13.4	25.0
SASKATCHEWAN	45	29,150	38,681	2,545	43,914	9.3	18.4	13.8	16.2
Regina						10.1	16.9	10.1	n/a
Saskatoon	14	4,240	45,618	500	49,654	4.5	22.0	20.1	10.5
ALBERTA	98	275,465	44,141	8,980	46,789	1.9	5.0	4.8	7.1
Edmonton	57	56,755	41,509	3,720	46,661	4.5	10.5	5.6	13.1
Calgary	21	50,595	47,346	1,425	49,273	0.3	4.3	5.6	2.1
BRITISH COLUMBIA	109	274,575	44,606	13,930	47,777	3.5	2.9	1.8	11.5
Victoria	40	9,565	44,139	2,145	48,390	8.9	10.2	5.9	4.8
Vancouver	61	119,855	43,251	6,725	46,927	2.6	7.3	-0.8	12.8
YUKON TERRITORY	4	180	45,206	120	47,593	21.9	11.5	7.4	1.1
NORTHWEST TERRITORIES	9	325	52,018	150	63,009	15.9	20.4	13.6	24.5

Earnings are expressed in current 2000 dollars

Source: CFIB Tabulation of Census data, Statistics Canada

Appendix C:

Provincial Public Administration vs. Private Sector Annual Earnings

Region	Private Sector			Public Sector		Public Sector Wage Premium			
	Occupations (#)	Employment ('000s)	Earnings (\$)	Employment ('000s)	Earnings (\$)	1985 (%)	1990 (%)	1995 (%)	2000 (%)
CANADA	232	4,235,130	41,368	144,420	44,543	8.6	9.8	12.3	9.1
NEWFOUNDLAND AND LABRADOR	45	14,480	36,886	3,480	38,507	0.6	4.5	-2.8	4.6
St. John's	30	6,855	39,764	1,985	38,827	-3.2	-0.5	-5.1	0.5
PRINCE EDWARD ISLAND	12	2,540	31,466	585	35,984	18.7	8.0	15.6	20.0
NOVA SCOTIA	51	31,745	37,080	3,565	40,731	17.6	8.6	10.3	9.2
Halifax	33	15,140	41,124	1,965	43,468	12.3	9.9	3.0	6.0
NEW BRUNSWICK	51	28,310	34,617	4,005	40,115	13.0	6.0	10.8	18.9
Fredericton	19	2,505	38,598	1,520	43,620	13.9	5.6	14.0	17.0
QUEBEC	140	636,635	39,803	44,120	44,154	11.5	13.4	19.1	13.2
Quebec City	98	45,665	38,791	19,335	46,856	14.2	12.5	21.9	19.4
Montreal	84	271,655	39,486	12,930	44,012	9.0	9.7	15.2	9.8
Ottawa-Hull	41	57,325	45,090	2,390	47,090	8.0	7.1	9.9	4.9
ONTARIO	154	1,256,805	44,180	32,465	47,374	10.4	14.1	14.3	8.4
Toronto	88	463,425	44,746	13,715	49,576	11.2	14.3	12.7	5.8
Hamilton	18	18,380	42,694	745	45,208	n/a	9.4	19.0	5.7
London								13.3	n/a
MANITOBA	70	56,175	38,546	5,445	43,313	14.8	21.1	13.7	20.1
Winnipeg	48	34,755	39,181	3,655	43,800	13.4	22.9	15.3	16.5
SASKATCHEWAN	58	35,065	40,022	4,725	43,520	17.1	15.9	7.8	16.1
Regina	34	10,220	40,897	2,370	44,637	13.3	9.7	4.2	13.6
ALBERTA	94	220,360	44,298	11,870	45,689	3.2	4.0	3.8	5.2
Edmonton	69	53,210	41,658	7,250	45,768	5.7	10.0	5.6	11.0
Calgary	21	42,015	46,415	1,245	47,540	8.2	-0.2	-1.9	1.4
BRITISH COLUMBIA	98	290,575	42,597	19,630	45,961	3.6	1.0	11.7	9.3
Victoria	47	11,425	42,424	6,335	46,194	4.9	12.0	14.7	8.7
Vancouver	48	96,270	43,053	4,630	44,733	7.7	7.4	11.2	11.2
YUKON TERRITORY	11	610	40,257	385	43,972	22.4	5.1	15.3	11.9
NORTHWEST TERRITORIES	23	930	50,723	665	60,483	13.3	18.9	13.6	21.7

Earnings are expressed in current 2000 dollars

Source: CFIB Tabulation of Census data, Statistics Canada

Appendix D:

Local Public Administration vs. Private Sector Annual Earnings

Region	Private Sector			Public Sector		Public Sector Wage Premium			
	Occupations (#)	Employment ('000s)	Earnings (\$)	Employment ('000s)	Earnings (\$)	1985 (%)	1990 (%)	1995 (%)	2000 (%)
CANADA	221	3,973,050	40,016	109,395	43,534	9.3	8.0	11.8	11.4
NEWFOUNDLAND AND LABRADOR	16	7,380	32,931	815	36,334	-2.4	3.6	0.2	13.1
PRINCE EDWARD ISLAND						-20.4	-2.5	17.4	n/a
NOVA SCOTIA	33	30,540	32,941	1,740	36,329	3.6	3.5	4.9	10.2
Halifax						2.4	6.4	1.4	
NEW BRUNSWICK	26	25,755	31,709	1,205	38,025	-3.2	11.5	13.7	19.7
QUEBEC	132	659,865	37,982	26,535	44,135	17.1	16.2	18.0	19.0
Quebec City	35	31,650	35,896	2,045	43,708	17.4	19.7	23.5	22.8
Montreal	102	290,415	38,834	13,160	45,396	20.8	18.8	18.9	19.4
Ottawa-Hull	63	72,200	42,230	4,075	46,882	8.8	7.5	11.3	11.2
ONTARIO	180	1,590,635	41,672	43,490	44,337	7.0	6.7	8.5	8.0
Toronto	105	539,105	43,034	14,845	46,392	13.8	15.0	11.3	8.6
Hamilton	37	28,245	39,452	1,970	43,021	n/a	1.2	16.0	11.0
St. Catharines - Niagara	19	9,050	34,959	970	39,243	n/a	n/a	9.1	12.3
Kitchener	27	16,025	37,147	1,170	41,456	n/a	n/a	11.1	12.6
London	18	11,755	37,194	655	43,634	n/a	n/a	11.8	17.6
Greater Sudbury						n/a	n/a	12.5	n/a
Oshawa	29	15,520	39,925	1,150	43,887	n/a	n/a	n/a	7.3
MANITOBA	54	57,195	34,576	3,010	40,178	19.6	12.5	12.2	17.6
Winnipeg	35	34,175	35,677	1,740	42,665	24.5	24.0	14.5	21.3
SASKATCHEWAN	45	39,045	37,694	2,625	38,308	4.8	5.5	6.1	3.0
Saskatoon						9.8	12.6	6.2	n/a
ALBERTA	97	291,520	40,646	10,550	44,142	5.4	4.1	8.7	6.3
Edmonton	52	59,465	40,474	3,095	45,258	8.6	12.5	13.4	8.6
Calgary	47	71,195	41,749	2,600	45,474	10.4	5.0	10.2	6.7
BRITISH COLUMBIA	109	290,775	41,514	12,770	46,064	6.9	2.4	13.7	13.4
Victoria	23	7,320	37,002	900	41,655	10.5	16.3	16.4	13.5
Vancouver	72	135,170	41,559	6,095	47,015	7.7	14.6	11.0	12.2
YUKON TERRITORY						9.6	11.9	0.2	n/a
NORTHWEST TERRITORIES	3	235	33,572	45	44,622	-11.7	1.8	3.0	35.0

Earnings are expressed in current 2000 dollars

Source: CFIB Tabulation of Census data, Statistics Canada

Appendix E:

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¹ Statistics Canada, CANSIM series V134831 and v130106

² Statistics Canada, *The Daily*, 5 Sept. 2003

³ For additional insight into the issue of senior public service pay, see *First Report of the Advisory Committee on Senior Level Retention and Compensation*, prepared for the President of the Treasury Board, The Honourable Marcel Massé, January 1998.

⁴ See Gunderson (1979), Gunderson et al (1995, 1998, 2000), Mueller (2000), and Bender (2003) for further discussion

⁵ See note 4

⁶ Statistics Canada, Labour Force Survey, November 2000

⁷ See Benjamin, Gunderson, and Riddell (2003) page 548 for a general discussion on the Efficiency Wage Hypothesis

⁸ Unlike previous CFIB studies, industries such as health care, social services, and utilities are excluded from the study due to the increased presence of private enterprise in the delivery of these services. As a consequence of this increased presence, segregating those public employees from private employees is significantly difficult.

⁹ Although excluded due to the lack of comparable private sector counterparts, there exist evidence suggesting that they could command higher wages in the private sector (see note 3).

¹⁰ Not only does this restriction increase the stability of wage estimates it is a requirement imposed by Statistics Canada to protect the privacy of survey respondents.

¹¹ See note 8

¹² See Gunderson et al. (1979, 1995, 2000), Prescottt and Wandschneider (1999), Blinder (1973), Oaxaca (1973), and Malkiel et al. (1973)

¹³ See Daniel, M. and W.E.A. Robinson (1980)

¹⁴ Overall public administration wage premiums, when estimated via traditional econometric techniques, are within 1 to 3 percentage points from those premiums found using CFIB's methodology.

¹⁵ Population size is a significant factor contributing to the lack of comparable occupations under study.

¹⁶ See *Getting Government Right: Governing for Canadians*, Ottawa: Treasury Board, 1997.

¹⁷ Statistics Canada, CANSIM series V134861 and V130121

¹⁸ According to Statistics Canada, the spike in total wages and salaries paid, in 2000, is due to a \$2.2 billion public sector pay equity settlement.

¹⁹ See note 15.

²⁰ See note 15

²¹ See Marshall (2003)

²² See Akyeampong (2003)

²³ The average federal public administration wage in 2000 was \$47,887 (see Appendix B). Dividing this number by 260 working days a year and then multiplying by the 4.3 day absence differential equals \$792 in benefits.

²⁴ The hourly wage difference between private sector and provincial public administration employees, adjusted for hours worked, is \$2.6 in favour of provincial employees (based on average wages in Appendix C) Multiplying by 4.8 hours a week over 52 weeks yields a \$649 annual unpaid benefit).

²⁵ CFIB's previous studies included values of $G_{ij} > 10$ and $P_{ij} > 10$. However, new Statistics Canada methodologies in reporting Census data (see note 10) requires that these values be at least 20. CFIB investigated the effects of these new restrictions and concluded that the results are not significantly affected.