

Business Indicators ♦ April 1999

Measuring Employment in the Public Sector

How big is the public sector?

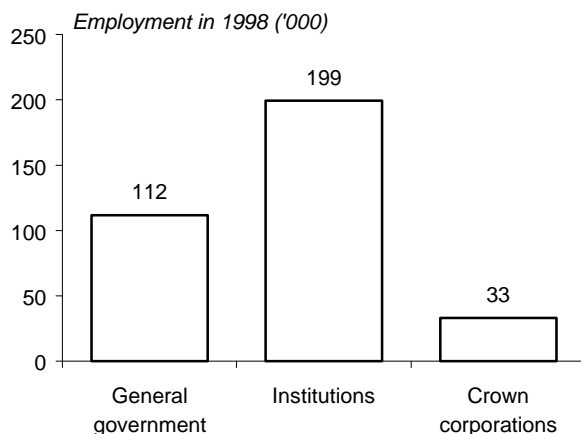
How many government workers are there in BC? The question seems simple enough, yet it can elicit a sometimes confusing array of answers, ranging from as little as 20,000 to more than 344,000 people. Which of these measures ought to be used, and how do the different pieces of the puzzle fit together?

Defining the public sector

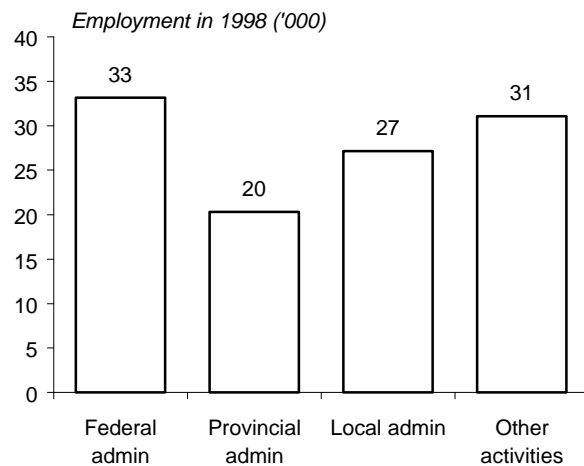
Essentially, the definition of the public sector is based on control. If an organization—and by extension its employees—is controlled by, or accountable to government, or if it is largely supported by tax dollars, it is included in the public sector.

The public sector is comprised of general government (federal, provincial and local government ministries and agencies, including those with an arm's length relationship to government), non-profit public institutions (e.g., hospitals and schools) and crown corporations.

One in three public sector workers is directly employed by government. The other two work in institutions or crown corporations.



A quarter of all general government employees work in industries other than public administration.



Activities range from administration to insurance services

Among these three groups, general (or direct) government encompasses the widest range of activities. Three out of every four people on federal, provincial and local government payrolls are engaged in the day-to-day operations of government or in public safety and defence. These workers are considered part of the public administration industry. However, one in four direct government workers are deemed to be employed in other industries such as forestry, insurance (e.g., Medical Services Commission, or Workers' Compensation Board), transportation, or utilities (e.g., water services).

Employment data from government payroll files are categorized into about 30 different industry groups. This may seem strange, yet when one considers the many different types of activities engaged in by government workers, it is easier to see the underlying basis for the classification.

Local governments, for example, offer a variety of services, ranging from day-to-day operations at city hall to providing housing for low-income families and individuals, and water, sewage and garbage disposal services. Municipal governments also provide police and fire protection, they build roads and bridges, and they manage parks and operate recreation centres as well as some types of health and social service agencies.

Similarly, at the provincial government level, some employees are engaged in administrative activities, while others work fighting forest fires, planting trees, or doing research. Government agencies such as the Medical Services Commission and WCB provide health and other types of insurance. Workers at provincial jails, parks and recreation sites are also employed by the provincial government. And the list goes on.

Almost 200,000 public sector employees work in schools, colleges, universities, hospitals and other health care facilities



This is the reason why there is such a plethora of public sector employment data. The narrowest definition of government employment—provincial government administration—corresponds to the 20,000 estimate. When other workers employed by the BC government and its agencies (who are not engaged in public administration or defence) are included, the figure rises to 42,500. Adding in other components of the provincial public sector — employees of hospitals, other health care facilities, universities and colleges—suggests that the pro-

vincial public sector was 166,400 strong last year. The broadest definition, which includes those working for the federal, provincial and local government, plus employees of institutions and crown corporations, indicates that BC's public sector had 344,000 employees last year.

How does BC stack up, compared to other provinces?

Not surprisingly, Ontario (949,400) and Quebec (717,500) are the provinces with the largest number of public sector employees (using the broadest definition). BC is ranked third, followed by Alberta, which had 255,200 public sector workers in 1998. Eight out of every ten public sector employees in Canada worked in one of these provinces. The total number of public sector employees in all of Canada was 2,780,900 last year.

Employment figures on their own are not necessarily a good basis for comparing trends in public sector employment among jurisdictions. This is because the demand for many of the services produced by the public sector (health care, education, protective and social services, to name just a few) is directly related to the size of the population.

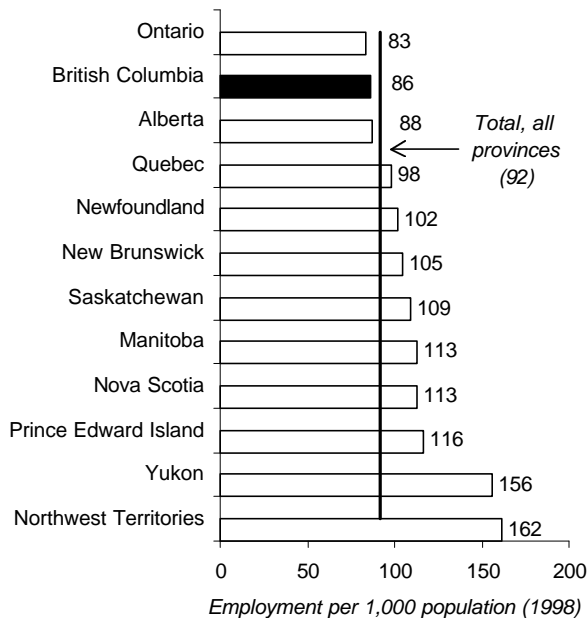
As a result, the public sector may expand or contract in response to population growth or decline. For example, a growing population often means that employment in hospitals and schools must increase in order to provide health care or education services to a larger number of people. Similarly, if there are fewer school-age children in the province, it is likely that employment in schools will drop as the need for teachers, administration, and support staff decreases.

The size of the public sector may also change as a result of policy initiatives or philosophical orientations that may cause a government to choose a more, or less, active role in the marketplace. An example of this may be found in the recent privatization of the Alberta Liquor Control Board, which moved employees at liquor stores in that province out of the public sector and into private sector employment.

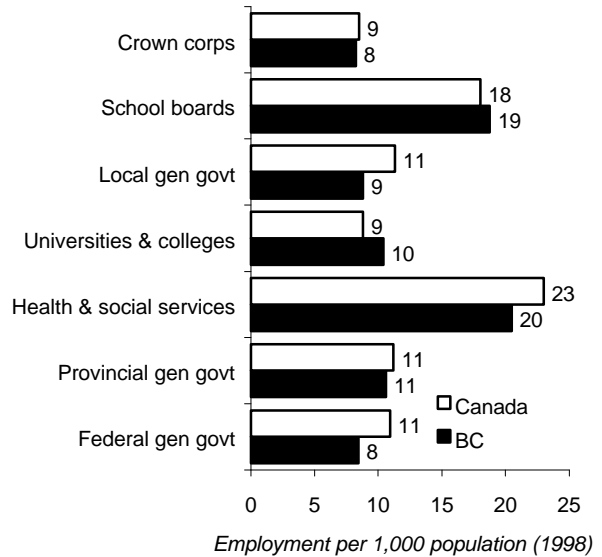
There were 86 public sector employees for every 1,000 residents of BC in 1998

Normalizing the employment figures using population makes it possible to measure the extent to which the role of government has changed over time. On this basis (and using the broadest definition), BC had 86 public sector employees for every 1,000 residents of the province in 1998, less than in any other region except Ontario (83). Alberta (88) was the only other region where the public sector employment rate fell below the national average of 92. In the rest of the country, public sector employment rates ranged from 102 in Newfoundland to 162 in the Northwest Territories. The smaller provinces and territories—those least likely to be able to benefit from economies of scale in the provision of public services—had the highest public sector employment rates.

When employment figures are adjusted by population, BC compares favourably with the rest of Canada. Its public sector employment rate is the second lowest in the country...



...and below the national average in every area except education



With the exception of educational institutions (schools, universities and colleges), British Columbia's public sector tends to be somewhat smaller, compared to its population, than the national average. In particular, the number of people on federal government payrolls (8 for every 1,000 residents, compared to a national average of 11), or working in hospitals and social service institutions (20, compared to 23), was well below the national average in 1998.

Large institutions, such as military bases, can skew the numbers for some provinces

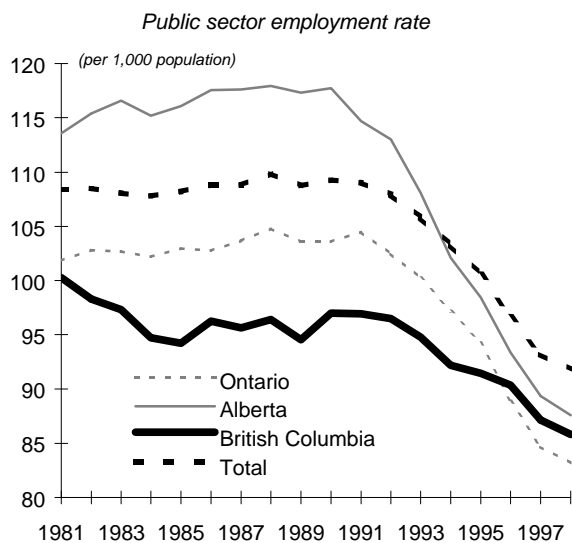
The location of large federal institutions, such as military bases, can have a significant effect on public sector employment figures. Nova Scotia, for example, had 13 military employees for every 1,000 people living in the province—more than four times the national average of 3. Without this concentration of military employees, Nova Scotia's public sector employment rate would have been similar to Newfoundland's, at the lower end rather than the higher end of the scale. New Brunswick's military employment rate (7) was also disproportionately high. Rates in other provinces ranged from 2 in BC, Saskatchewan and Quebec to 4 in Manitoba.

Trends in public sector employment since 1981

British Columbia's public sector employment rate has remained below the national average in every year since 1981, and during most of that period, it has been the lowest in Canada. In recent years, the province has followed a national trend toward a leaner public service, but the cuts have not been as deep as in other parts of the country. BC did not have to cut as much as some other provinces, as it already had the lowest public sector employment rate in Canada. The province's public sector employment rate has fallen from 100 to 86 during the last eighteen years.

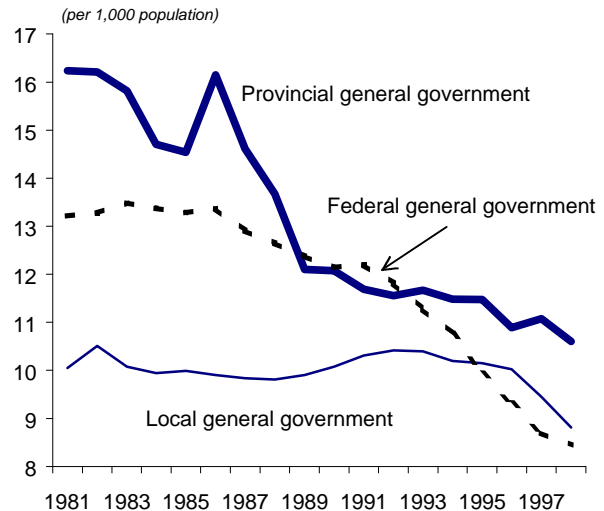
Ontario's public sector employment rate slipped below BC's in 1996, largely due to the cumulative effect of deep job cuts during the 1990s. Since 1981, Ontario's employment rate has fallen from 102 to 83, with most of the decline occurring during this decade. Alberta has trimmed its public sector even more dramatically. Its public sector has gone from being one of the largest in the country in 1981 (with an employment rate of 114) to one of the smallest last year (88). Over the same period, the Canadian employment rate has dropped from 108 to 92.

A trimmed-down public sector



In BC, the largest cuts have been in provincial general government

General government employment rate

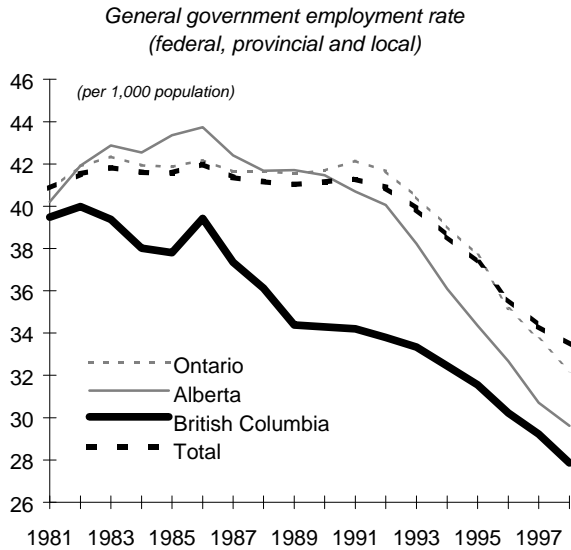


Federal, provincial and local general government employment in BC has not kept pace with population growth during the last eighteen years. The most significant decrease has been in the provincial general government employment rate, which has fallen from 16 employees for every 1,000 residents in 1981 to 11 last year. Most of the adjustment took place during the 1980s. The rate has continued to taper off since 1991, but at a more moderate pace.

Local government employment has also grown less than the population, declining from an average of 10 workers for every 1,000 people during most of the 1980s and the first half of the 1990s, to 9 last year. In the federal government, the employment rate has fallen from 13 to 8 during the same period. Almost all of the adjustment has occurred during the last eight years.

Belt-tightening in the general government sector has occurred in all parts of the country, but the decrease over the longer term has been greater in BC than in the other provinces. The general government employment rate in BC has fallen by almost a third since 1981, decreasing from 39 to 28—the lowest in the country. Alberta and Ontario

BC's general government employment rate is the lowest in the country



were the only other provinces to see a similarly large decline. Nationally, the rate has fallen from 41 to 33 since 1981.

Public sector providers of health care and education have bucked the trend

BC is the only large province where the number of health care and education workers on the public payroll has almost kept pace with population growth since the beginning of the decade. Nationally, the public sector employment rate in institutions has fallen quite significantly during this period. The largest declines have been in Alberta and Ontario. Despite this, institutional employment in most parts of the country has more or less kept pace with population growth over the longer term. Employment rates in Canada's four largest provinces were at virtually the same level in 1998 as in 1981.

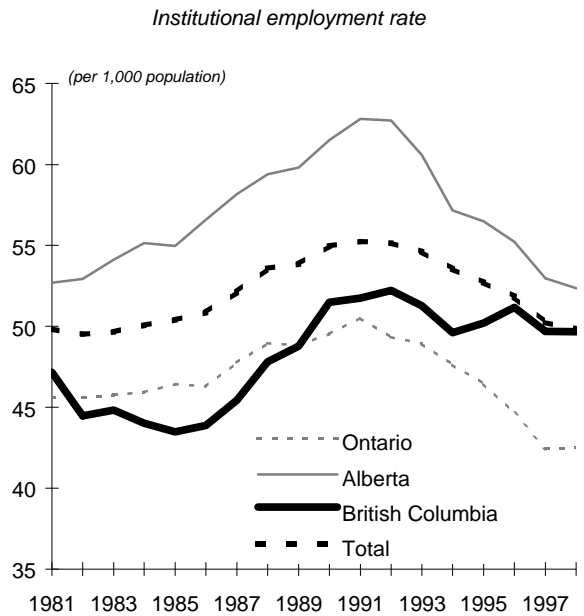
Six out of every ten public sector workers in British Columbia are employed by hospitals, school boards, universities, colleges, or special care facilities. Within this group, employment trends have been quite different. Relative to the population, the number of people employed in health and social services has declined only marginally since 1981. In contrast, employment rates at school boards,

universities and colleges have grown faster than the population during this period.

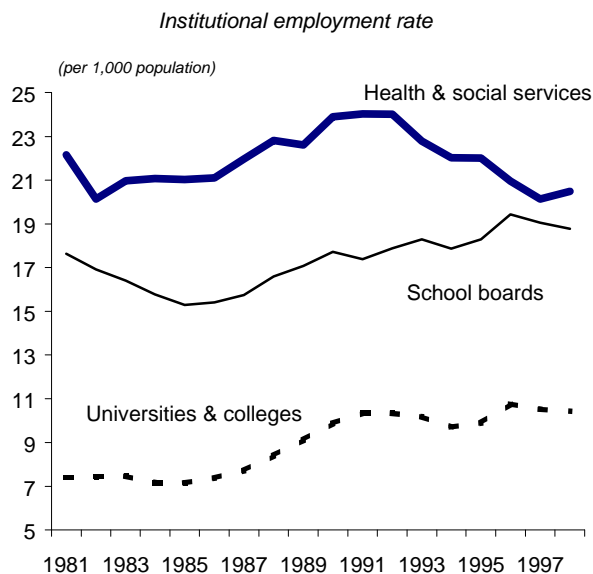
Some of this increase could be explained by a change in the make-up of the population—for example, if the number of school-aged children in the province had grown more than the general population. However, when school board employment is compared to the school-aged population, the same trends appear (on this basis, the school board employment rate has increased from 91 to 111 during the last eighteen years).

It is possible that the employment growth at educational institutions is due to a shift away from full-time to part-time employment at schools and post-secondary institutions. This could result in higher employment counts with little or no increase in person-years of employment. Other explanations of the increase include factors such as changes in working conditions (e.g., lower student to teacher ratios).

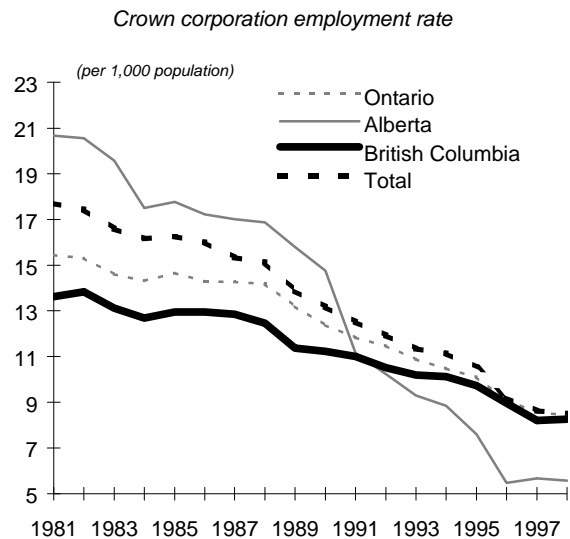
Public sector employment in health care and education has increased at the same rate as the population in BC despite relative declines in other parts of the country.



Employment in health, education, and social services has kept pace with population growth...



...but employment at crown corporations has been falling



Health and social service institutions are the largest single employer within the public sector, employing 20 workers for every 1,000 people in the province in 1998—more than the provincial and local governments combined (19). Municipal school boards (19) had a similarly high employment rate. The employment rate at universities and colleges was significantly lower (10).

Crown corporations are playing a smaller role

Following an overall trend toward less public sector employment, and less government intervention in the marketplace, the number of employees at crown corporations has also been declining in most parts of the country. The decline in BC has been relatively modest (from 14 in 1981 to 8 last year), compared to other parts of the country. In Alberta, crown corporation employment dived from a high of 21 per 1,000 people in 1981 (fifty percent above than the national average) to 6 last year. This was almost entirely due to a significant decrease in the number of employees at provincial government crown corporations during the last eight years, as the government in Alberta has been divesting itself of some of its interests in business operations.

Statistics Canada produces two different sets of public sector employment estimates. Which one should you use?

The government employment data used in this paper are obtained from Statistics Canada's Public Institutions Division (PID). These estimates can differ quite significantly from public sector employment data from other sources.

Why are PID estimates different from statistics produced by public sector employers?

Differences between PID data and information provided by the various levels of government may be explained by the definition of the public sector used by Statistics Canada. As discussed above, this definition includes many activities which do not show up on government records, as the employees involved are not working directly for a government ministry.

How are the PID numbers generated?

PID employment estimates for general government are reconciled to payroll records provided by federal, provincial and local governments and their agencies. The data are supplemented with information from other sources, the most important of which is tax data from the payroll deduction accounts of employers, supplied by Revenue Canada. These administrative data sources are the foundation for the estimates reported by PID.

The Labour Force Survey

Statistics Canada's Household Surveys Division also publishes monthly public sector employment estimates. They are based on information from the Labour Force Survey (LFS), a survey of households. In this survey, individuals are asked to identify their employer, and which industry they work in. Their responses are then tabulated, and adjusted using sampling techniques so that they represent the entire population. It should be noted that members of the military are not surveyed, so LFS employment estimates for the public sector do not include military personnel or civilian defense workers (military employment is included in the PID data).

Because they are based on responses from a sample of Canadians chosen to participate in the survey, results from the LFS are subject to sampling variation. For example, if an unusually large number of people employed by the provincial government show up in the sample for a few months, this could boost the employment estimates for provincial public administration. When these people move out of the sample, the "increase" is wiped out. Sampling variation is not a significant problem at the provincial all-industry level, but it can affect data at the industry level, especially for some of the smaller industries.

PID versus LFS: which one should you choose?

A comparison of PID and LFS employment data for general government (including administration as well as employment in other industries such as forest services or utilities) illustrates this point. Although both curves have the same general shape, there is much more volatility in the LFS data than

in the PID estimates. This is particularly evident in the change in employment between 1997 and 1998. The large increase in the LFS data has no obvious explanation, and is not consistent with information from other sources. Changes in general government employment tend to be quite "smooth", as adjustments to the workforce are usually made gradually through processes such as attrition. The pattern of the PID data matches administrative records more closely than the LFS series.

The discrepancy between the two data sets is greatest in the general government sector. PID and LFS employment estimates for other components of the public sector are much more consistent, both in their level, and in the magnitude and direction of changes which occur.

Given the volatility of the LFS data, BC STATS recommends using the PID employment estimates to analyze trends in public sector employment.

LFS general government employment estimates exhibit considerable volatility, which is not consistent with information from other sources

