SCRUTINIZING ALBERTA'S PUBLIC SECTOR

How Its Size and Compensation Compare to Other Jurisdictions

PARKLAND INSTITUTE

Richard E. Mueller

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Executive Summary

The September 3, 2019 release of the Report and Recommendations of the Blue Ribbon Panel on Alberta's Finances (the MacKinnon report) has put the issues of the size and compensation levels of Alberta's public service at the centre of speculation about the upcoming provincial budget.

The MacKinnon report argues that both the size and compensation of Alberta's public sector are higher than comparator provinces, and the panel's report suggests that the government could reduce the size of the public sector (through employee attrition), consider alternative delivery of government programs and services (through the private and non-for-profit sectors), and recommends "that the government establish a legislative mandate that sets the salary levels for all public sector employees." There is widespread expectation that these and other suggestions will be included in the provincial budget to be tabled on October 24, 2019.

This report uses data from the Survey of Employment, Payrolls and Hours (SEPH) and the Labour Force Survey (LFS) to assess the size of the public sector in Alberta and its compensation compared to the private sector in Alberta and comparable definitions of the sectors in Canada as a whole and the three largest provinces: Quebec, Ontario, and British Columbia.

The Size of the Public Sector

Perhaps contrary to what is commonly thought, there has been practically no relative growth in the public sector as a percentage of the total population since the mid-1970s. From 1976 to 2018, the national figure increased from 9.84 percent to 10.23 percent, while the comparable figures for Alberta are 10.29 and 10.23 percent, respectively. Thus, public sector employment in both Canada and Alberta is about the same proportion of population as it was back in the mid-1970s, and as of 2018, the Alberta figure was identical to the national average. Quebec is the only province that has increased the relative size of its public sector, whereas it has fallen in Ontario and BC.

Another way of measuring the size of public sector is as a percentage of total employment. By this measure, public sector employment has been falling, not only in Alberta, but generally throughout the country. Overall, the size of the public sector in Alberta is still at or below the national average, even over the past four to five years, when the size of the public sector in Alberta grew and private sector employment declined.

Public Sector Compensation

It is widely known that nominal weekly earnings in Alberta are the highest in the country, and since at least 2001, the consumer price index (CPI) has also advanced more in Alberta than in any of its comparator jurisdictions. As such, it is important that any earnings comparisons between Alberta and other jurisdictions consider these different inflation rates.

Since 2001, average overall earnings for all workers in Alberta have exceeded those in each of the comparator jurisdictions except Ontario, where Alberta earnings surpassed those in that province in 2008. In 2014, average earnings in Alberta were some 15 percent higher than the national and Ontario average, and 25 percent higher than in Quebec. The downturn in the provincial economy has meant that the Alberta wage advantage has declined to 8 percent compared to the national average, but in 2018 relative real earnings were still higher than in all other jurisdictions.

Disaggregating the three industries largely (or exclusively in the case of public administration) populated by public employees—educational services, health care and social assistance, and public administration, which collectively employ 85.5 percent of all public employees in Canada and 87.1 percent in Alberta—allows a comparison of public sector wage levels to all Alberta workers. The data show that while overall real weekly earnings in Alberta are above those in Canada and its three largest provinces, real weekly earnings in Alberta for each of the three public sector industries under consideration are often at or below those of other jurisdictions.

It's possible to get a better understanding of relative earnings levels by using a difference-in-difference methodology, which compares the relative earnings differences in each of the three main public sector industries with the overall earnings differential. Using this measure, we find that relative to overall wages, Alberta employees in these industries tend to suffer a wage penalty, although this penalty has diminished since the mid-2010s, coinciding with the recent downturn in the Alberta economy and the commensurate decline in overall real weekly earnings. Employees in these three industries in Alberta do have earnings that tend to be higher than in other sectors, but earnings in Alberta in these other sectors tend to be proportionately higher than in the other provinces, putting Albertans in these public sector jobs at a relative earnings disadvantage (the exception is local government administration employees).

A final way to look at public sector compensation levels is to compare real hourly wage levels using the nominal LFS wage data adjusted for differences in the rate of inflation by jurisdiction. The data show that overall real wages in Alberta are higher than the Canadian average (and higher than in any of the provinces), and this overall wage advantage is largely due to

higher private sector wages, where the Alberta advantage is 17–18 percent for private sector employees in Alberta relative to the national average, compared to the public sector wage advantage of 9–10 percent.

Conclusion

By using two complementary data sets that disaggregate the public sector into its components, controlling for the inflation rate, and viewing any earnings differentials over the longer term, this report has overcome many of the limitations of much of the previous research on the topic and provided a more complete, accurate, and balanced view of the size of Alberta's public sector and the earnings of its employees.

In contrast to the MacKinnon report, we conclude that Alberta does not really stand out in any way relative to the other three large provinces, both in terms of the size of its public sector size and its compensation. If anything, Alberta has tended to have a smaller public sector compared to other jurisdictions using certain measures.

Similarly, the compensation to public employees in the province does not stand out in anyway, except for the fact that Alberta was and still is a high wage province and public sector wages, at least in part, reflect this. Where Alberta does stand out is that relative to overall earnings within the province, Alberta public sector employees tend to earn relatively less than their counterparts in other jurisdictions, especially when the overall high relative real earnings in the province are considered.

Introduction and Literature Review

The September 3, 2019 release of the Report and Recommendations of the Blue Ribbon Panel on Alberta's Finances (2019)—colloquially called the MacKinnon report—has put the issues of the size and compensation levels of Alberta's public service at the centre of speculation about the upcoming provincial budget.[1]

The MacKinnon report argues that both the size and compensation of Alberta's public sector are higher than comparator provinces, and three of the report's 26 recommendations focus on public sector compensation. The panel suggests that the government could reduce the size of the public sector (through employee attrition), consider alternative delivery of government programs and services (through the private and non-for-profit sectors), and recommends "that the government establish a legislative mandate that sets the salary levels for all public sector employees" (2019: 50). There is widespread expectation that these and other suggestions will be included in the provincial budget to be tabled on October 24, 2019.

The findings of the MacKinnon-chaired panel should come as no surprise, as these general conclusions regarding reducing overall public sector compensation were similarly argued in a 2017 paper written by the same MacKinnon and economist Jack Mintz. In that paper, MacKinnon and Mintz (2017) argue that the government could retain government services without the quality of these service suffering by "moderating" public sector wages. They calculate that by reducing raises for Alberta's public sector workers, the province could save $1.5 billion over three years.

In its final fiscal update released in February 2019 (Government of Alberta 2019), the NDP government revised downwards its 2018-19 budget deficit projections to $6.9 billion from the $8.8 billion estimated in the 2018 budget. Thus, potential savings equivalent to 7.2 percent of the budget deficit could be realized according to the figures provided by MacKinnon and Mintz.

Citing the government's own figures, MacKinnon and Mintz outline that public sector compensation in Alberta constituted 55.8 percent of operating spending and that in 2017-18 the government was budgeted to spend $26.1 billion on public sector compensation, which included doctors, teachers, nurses, etc. They also note that the Notley government had already acted to restrain the salaries of non-union employees by freezing the salaries of managers (and others not covered by collective agreements) from 2015 through 2018. More recently, the new UCP government has signalled that it is committed to reopening collective agreements in the interest of further reducing the provincial wage bill.

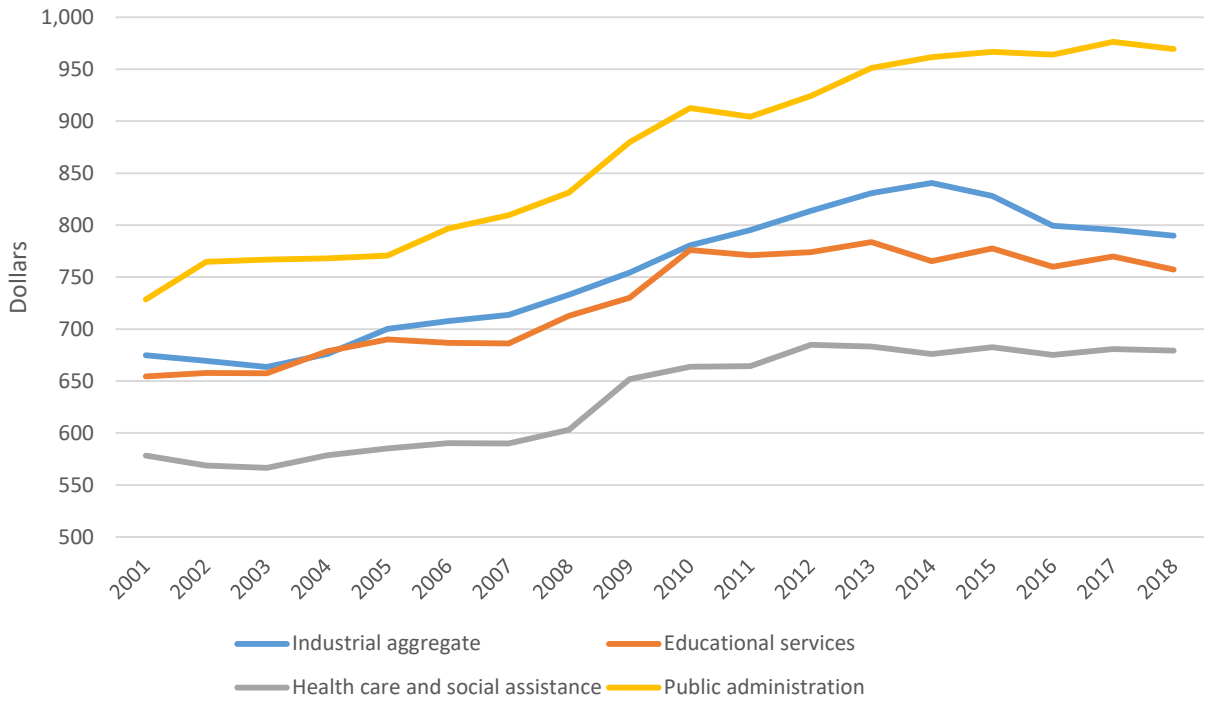
The authors provide evidence from the 2016 Survey of Employment, Payrolls and Hours (SEPH), showing that public sector earnings in each of the three industries of educational services, health care and social assistance, and public administration (the first two of which have significant numbers of public employees, the latter having exclusively public employees) are higher in Alberta than in three largest provinces (Quebec, Ontario and British Columbia). The only exception is educational services in Ontario, where the average weekly earnings about the same as Alberta ($1,066 versus $1,063). Using an unweighted average, they show that public sector employees in Alberta earned $1,117 compared to $1,081 in Ontario, $1,023 in British Columbia, and $957 in Quebec.

MacKinnon and Mintz (2017: 6) write, "Relative to other comparable provinces, public sector salaries in Alberta are relatively high." Comparing wages per employee in this province with those from Quebec, British Columbia and Ontario, they argue that Alberta could have saved around $2.1 billion in 2016 if public sector salaries were at the same level as the average of these three provinces. They do note that the justification for this is that compensation for skilled workers in Alberta is high, and that this is often used as a justification for pushing up public wages,[2] but say that competition for public employees (including public administrators, teachers and health care workers) is most influenced by demands for public sector workers by other provincial jurisdictions and the federal government. Further, they argue, upward pressure on compensation in Alberta creates pressure on other provinces to raise compensation in order to retain their best public employees. They go on to mention (p. 8) that a "reasonable" mandate might be minus two percent in year one, zero in year two, and zero in year three. Two per cent of $26.1 billion is $510 million according to the authors.

Related work by Palacios, et al. (2018) for the Fraser Institute uses Labour Force Survey (LFS) data to show that public sector employees in Alberta had a 6.1 percent wage premium relative to the private sector in 2017. While these authors use multivariate analysis—and thus control for a variety of wage-generating characteristics such as education, occupation and union status—to arrive at this conclusion, like MacKinnon and Mintz (2017) the authors do not differentiate between the different levels of government or type of public employee.[3] In the latter case, there is often overlap between the private and public sectors (most notably in the health care and social assistance industry, as we will see below) and this may bias comparisons of earnings between the sectors. Furthermore, not all compensation packages in these industries are within the direct (or even indirect) control of the provincial government (for example, federal government public administration employees and private sector health care workers).

Aside from the lack of disaggregation of the public sector in both studies, there are two additional limitations. First, the years chosen for comparison purposes—2016 and 2017—are years when overall earnings in the economy were falling, mainly in the private sector, and so the public sector earnings differential will be overestimated. While it is likely that both studies were simply using the most recent data available, neither year is representative of the longer-term trends. Second, the use of nominal earnings is problematic in the case of inter-provincial comparisons since the inflation rate in Alberta has exceed that in all other jurisdictions. The use of nominal earnings does not affect intra-provincial comparisons. Figure 1 corrects for both of these methodological issues, showing that average real weekly wages in Alberta fell from $840 per week (in 2001 dollars) in 2014 to $790 in 2018. Over the same period, earnings in the other three sectors remained relatively stable. As a result, the gap between public administration employees and all employees is at its widest in 2017 (or the narrowest in terms of educational services and health care and social assistance employees). Indeed, this pattern would be much more pronounced if we were to eliminate the three highlighted industries from the industrial aggregate numbers shown in Figure 1.[4]

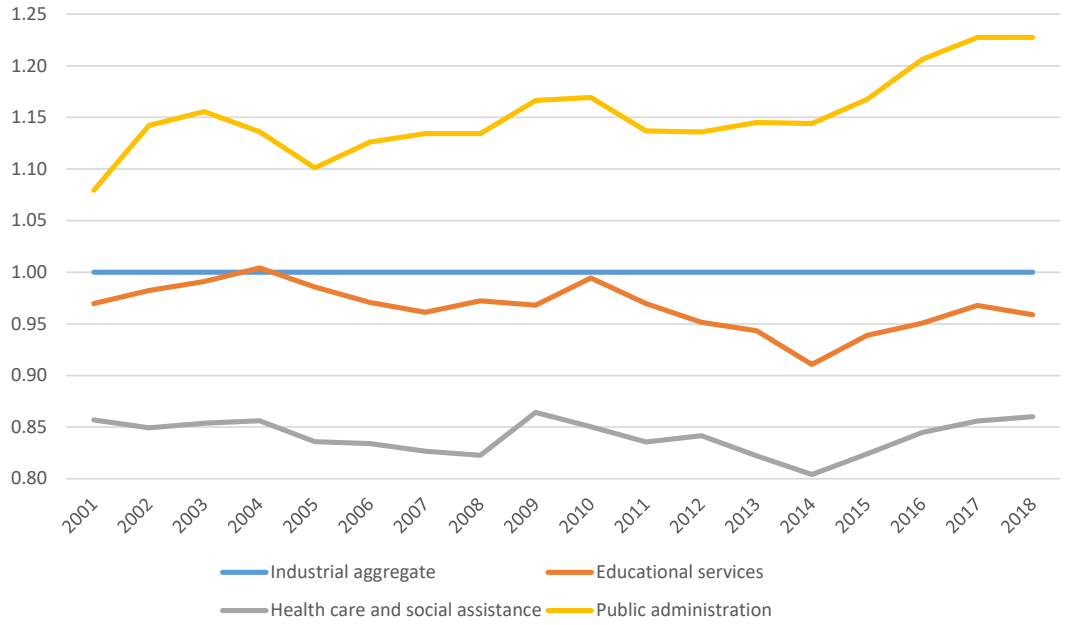
Figure 1: Average Real Weekly Earnings (Including OT) by Industry, Alberta, 2001–2018



Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

This overall pattern is more obvious in Figure 2, where average real weekly earnings in the three industries are compared to the average industrial aggregate. Again, we see that the relative differences in earnings changed markedly after 2014, with each public sector definition gaining ground on the real average industrial aggregate wages. McMillan (2018) also notes that the choice of 2017 (which would also apply to 2016) may not provide an accurate assessment of any public sector wage premium for the reason stated above as well as the fact that, unlike the private sector, the public sector is covered by multi-year contracts (which were being honoured over this time). Furthermore, McMillan notes that while demand for private sector employees decreased as the price of oil declined, demand for public sector workers was not affected, as demand for government services is not negatively impacted. For example, demand for education has increased as the number of students in the 20- to 29-year-old age group increased by 9.2 percent between 2014 and 2017 despite the population of this group decreasing by 1.7 percent.[5] The number of students did taper off a bit in 2018, but still remained 1.8 percent higher than in 2014 despite the decline of 3.0 percent in this age group's population. Thus, the recession seems to have encouraged many people to return to school, which bodes well for the future of the labour market, but also points to the increased demand on government services during the downturn, and in particular Alberta's universities, colleges, and technical institutes.

Figure 2: Average Weekly Earnings (Including OT) by Industry Relative to Industrial Aggregate, Alberta, 2001–2018



Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01

The Institute for Competitiveness and Prosperity (2014) compared public sector earnings in Ontario with the three other largest provinces in Canada using LFS data from 1997 through 2012. Using the LFS, as well as limiting their sample to include only occupations with significant numbers in both the private and public sectors, they found that there was an upward trend in the public sector wage premium for BC, Alberta, and Ontario, but not for Quebec. For Alberta, however, the public sector had a wage penalty until 2008, when it became a premium of about two percent, before declining to essentially zero in the 2010–12 period. Again, this underlines the importance of years chosen for comparison purposes.

In the most recent work, Mueller (2019a) uses LFS data and finds that Alberta public sector workers who are not in the public administration industry and whom are paid directly or indirectly by the province (e.g., education and health care professionals), had hourly earnings about 3.7 percent higher than their counterparts in the private sector over the 2006–2017 period after controlling for a variety of factors including occupation. For public administration workers, determining any earnings premium or penalty is more problematic since these workers are in their own industry and thus any estimates are dependent on the choice of comparator industry. When a low-wage industry such as agriculture is used, public administration wages are relatively high; when a high-wage industry such as oil and gas extraction is used, these employees appear to be poorly compensated.

Assuming a 3.7 percent premium in total compensations to provincial public sector workers implies that the Alberta government could save some $800 million annually from the 2018-19 budget, which included $21.6 million budget for wages, salaries and employee benefits (Government of Alberta 2018).[6] These are similar to the savings suggested by MacKinnon and Mintz (2017). That said, the report also cautions that higher public sector compensation could be due to some unobservable skills that public sector workers possess more than private sector workers (e.g., literacy skills) in which case the higher earnings may be justified. Indeed, the Institute for Competiveness and Prosperity (2015) showed that public sector workers in Canada are positively selected—in other words, they are the cream of the crop—and once this is considered the raw wage premium becomes an adjusted wage penalty for public sector employees. While Mueller's estimates are useful in providing a greater degree of disaggregation of public employees, his estimates are the weighted averages of several years (2006–2017) and therefore may not accurate reflect what is happening currently, and accurately assessing any public sector premium today is of utmost important for policy purposes.

In what follows, we will continue to use data from the Survey of Employment, Payrolls and Hours (SEPH), as in the previous two figures, and complement this with data from the Labour Force Survey (LFS) to access the size of the public sector in Alberta and its compensation compared to the private sector in Alberta and comparable definitions of the sectors in Canada as a whole and the three largest provinces: Quebec, Ontario and British Columbia. We will update the data to 2018 (the most recent year for which annual data are available) and also address relative public sector size and compensation from a historical perspective. The purpose of this work is simply to present accurate estimates, not to provide any specific policy recommendations. A more formal econometric analysis is dispensed with in what follows for two reasons: (1) the results presented below largely reflect the above research when the time periods do overlap; and (2) we are attempting to update (and improve upon) the data provided by the Mackinnon and Mintz (2017) report and will follow similar comparisons in order to have better comparisons with their data.

Why Does Relative Public Sector Compensation Matter?

Economists (and others) who study public sector earnings differentials are usually concerned with rent payments to public employees. This has become important in Alberta since the recession of 2015-16, when tens of thousands of private employees in Alberta were left without work, oil prices plummeted, and the provincial budget deficit grew as resource royalties fell and government services were maintained (and even expanded). In short, rent payments in this case would be compensation that is in excess of what would be necessary to keep public servants in their current positions and perform their duties at the same intensity. Thus, reducing rent (or excess payments) would not alter the provision of public services. If someone quips that they cannot believe what they are paid to do their job, they are likely enjoying economic rents. On the other hand, if public sector earnings are lower than those that can be earned in the private sector (or in another public sector jurisdiction), then morale can suffer, shirking could become problematic, employees may exit public sector employment, and attracting new public employees may be difficult, all of which could impact the quantity and quality of public services.

In short, ascertaining the correct compensation for public employees is important. However, this is often a difficult exercise in practice as often there is no natural private sector comparator, especially for those public employees in public administration, an industry which by definition has no private employees. For other employees, namely those in educational services and

health care and social assistance, employees can be found in both the private and public sectors and so comparisons are likely more meaningful.

Reducing the amount that Albertans spend on public sector compensation can occur in only one of two ways: reducing the earnings and benefits of public sector workers or reducing their numbers. We will address the latter first. In addition to the Survey of Employment, Payrolls and Hours (SEPH), we will use Labour Force Survey (LFS) data from 1976 through to 2018 to ascertain the position of Alberta's public sector relative to Canada and, following MacKinnon and Mintz (2017), comparisons with the three largest provinces will be made. Using these three provinces as comparators is useful because if there is any movement between public sectors, it is likely to happen between these provinces since they (along with Alberta) jointly contained 86.4 percent of the total Canadian population in 2018.[7] The final rationale is that these largest provinces are more likely to have economies of scale in the provision of public services and so compensation patterns may be different than the other provinces which are much smaller.

Comparing the Survey of Employment, Payrolls, and Hours (SEPH) and the Labour Force Survey (LFS)

Since MacKinnon and Mintz (2017) use the SEPH in their study, we will also do so since we are interested in "anchoring" our results to theirs before utilizing complementary data from the LFS. The SEPH data are consistent and so will accurately portray trends, despite the limitations in these data discussed below. The SEPH is a census of payroll data collected by the Canada Revenue Agency and compiled by Statistics Canada on a monthly basis. In comparison to the LFS, the SEPH counts employees and not individuals. It also includes only non-farm jobs and does not include the self-employed or unpaid family workers (since they are not on any payroll). Thus, in the SEPH there is some double counting of individuals, namely those employees with two or more jobs, but also an undercounting since not all jobs are not included. The LFS, by contrast, is a monthly survey of some 56,000 households in the 10 provinces and contains data on the main job held by the individuals within the household, including those with paid employment, the self-employed and (a small number of) unpaid family workers, but data on earnings is only available for paid employees. We compare earnings from both data sets where the results are similar since relatively few paid employees have more than one job.

For our purposes, the LFS is also a better measure of employment numbers since it disaggregates both the educational services and health care and social assistance industries into public and private employees and disaggregates public administration into its subindustries: the main ones being federal administration, provincial administration, and local administration. While the SEPH also disaggregates the public administration sector into its main subindustries, only employment counts are publicly available and not hourly nor weekly earnings. Disaggregation in this respect is important since it allows us to isolate any earnings differences between and within sectors.

Hourly earnings are a preferable measure of employee compensation for a number of reasons. First, hourly wages tend to be a better measure of employment productivity since they implicitly control for number of hours worked (which tend to be fewer in the public sector) and thus provide an apples-to-apples comparison within and between industries and sectors. This is important for Alberta, where workers in each of these three industries, as well as overall, tend to work more hours per week; about one additional hour per week compared to the national average for all industries.[8] Thus, use of weekly earnings will tend to overestimate any relative earnings advantage of Albertans relative to other jurisdictions.

Second, the SEPH uses payroll data, and not individuals, whereas the LFS has individual level data but only provides data for the main job held. For example, assume that two individuals hold two jobs each, the first paying $1,000 per week and the second for $200 per week. In the SEPH this would be recorded as four employees (since there are four payroll records) with average weekly earnings of $600. In the LFS, only the main job would be counted for each so the average would be $1000. Thus, the SEPH will tend to underestimate the true relative earnings differences compared to the LFS data. In fact, there is evidence that such bias could occur in the SEPH, but it is not likely to be a serious issue. In the LFS there is a variable for multiple job holders and this shows that a small, but non-trivial, number of employees held two or more jobs between 2016 and 2018. Overall, some 5.39 percent of employees in Canada worked more than one job in the survey reference week, but these were not distributed evenly across sectors, with 6.49 percent of public sector workers having more than one job compared to 5.05 percent of those in the private sector. Within our three major industries, 8.33 percent of health care and social assistance employees had at least two jobs as did 8.11 percent of those in educational services nationwide, compared to 4.94 percent of those in public administration.[9] Those in the private sector in educational services and health care and social assistance tend to have higher probabilities of holding more than one job, perhaps the result of lower pay (see below) or having fewer hours in their main jobs compared to those employed publicly. Regardless of the reason, these unequal rates of multiple-job holding between sectors and industries will further distort earnings

differences using the SEPH compared to the LFS, although in practice this is not a serious issue.[10]

To understand the different definitions of the public sector, we turn to Table 1, which contains data for 2016 from both the SEPH and the LFS. The right-hand column shows that between 81.2 percent and 91.9 percent of all employees are in the four largest provinces, dependent on the data used and the industry definition. Another interesting outcome is that the percentage of public sector employment is generally higher in Alberta in educational services (Row M) and health care and social assistance (Row O) compared to the other three provinces.

The lower panel of Table 1 shows the both the SEPH and the LFS are similar in terms of the number of employees in each of the industries. Indeed, in the aggregate, Statistics Canada (2016: 38) shows that when the LFS is adjusted to be consistent in concept and definition to the SEPH employment numbers, the data are very similar over time. MacKinnon in Mintz (2017) consider three industries (i.e., educational services, health care and social assistance, and public administration) to be the public sector in their analysis. This is not unreasonable since we see in Row X that 85.5 percent of public employees are employed in these three industries in Canada (87.1 percent in Alberta). However, MacKinnon and Mintz are unable to disaggregate employees within educational services and health care and social assistance into private employees and public employees, as is possible (and will be done below) with the LFS. This is important since there are a non-trivial number of private employees in each of these industries—almost 47 percent nationwide in the case of health care and social assistance.

Table 1: Comparison of the Survey of Employment, Payrolls and Hours and the Labour Force Survey, 2016

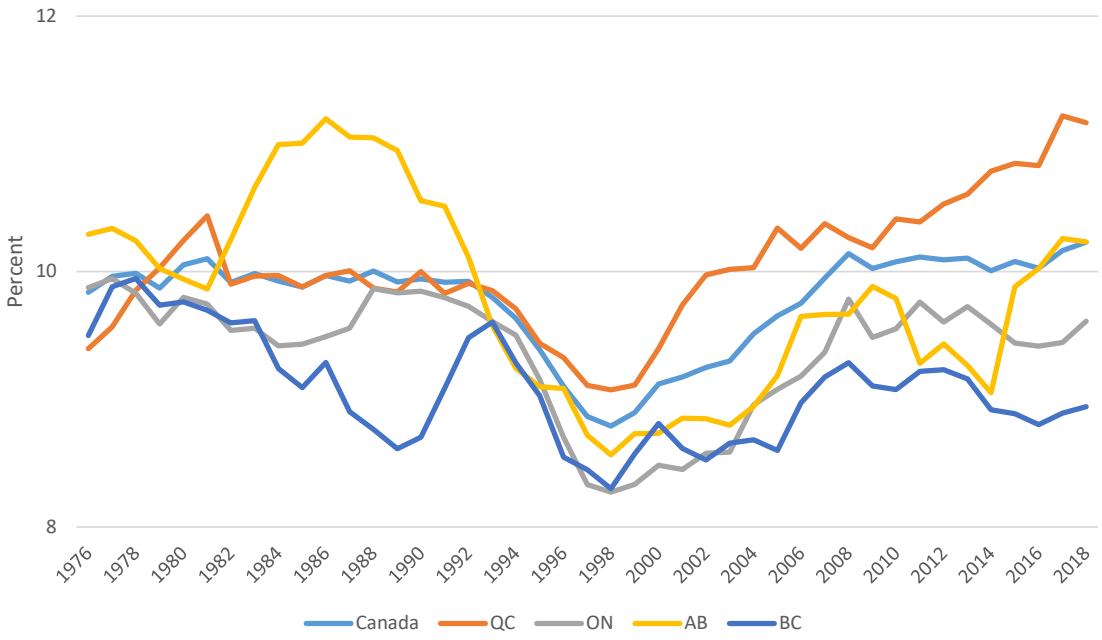
Row	Industry	Canada	Quebec	Ontario	Alberta	BC	Top 4 as % of Canada
				SEPH			
A	All industries	15,951,412	3,535,108	6,189,794	1,967,676	2,132,199	86.7%
B	Educational services	1,252,481	298,543	477,670	140,889	153,397	85.5%
C	Health care and social assistance	1,876,120	430,772	692,570	193,358	252,081	83.6%
D	Public administration	1,067,011	237,413	398,253	108,937	121,383	81.2%
E	Total top three (B+C+D)	4,195,612	966,728	1,568,493	443,184	526,861	83.5%
				LFS			
F	All industries	15,310,155	3,577,940	5,903,643	1,891,180	1,958,607	87.1%
G	Public	3,620,384	890,937	1,306,379	420,605	427,697	84.1%
H	Private	11,689,771	2,687,003	4,597,264	1,470,574	1,530,910	88.0%
I	% of total public	23.6%	24.9%	22.1%	22.2%	21.8%	
J	Educational services	1,205,512	269,966	477,551	142,861	149,191	86.2%
K	Public	1,085,006	247,500	422,543	130,658	128,140	85.6%
L	Private	120,505	22,466	55,008	12,203	21,054	91.9%
M	% of total public	90.00	91.68	88.48	91.46	85.89	
N	Health care and social assistance	2,043,576	505,179	723,304	239,406	250,374	84.1%
O	Public	1,084,333	274,063	342,511	138,620	133,031	81.9%
P	Private	959,243	231,116	380,793	100,786	117,343	86.5%
Q	% of total public	53.06	54.25	47.35	57.90	53.13	
R	Public administration	927,269	238,120	352,975	97,092	103,672	85.4%
S	Federal	345,009	81,541	152,271	21,016	36,861	84.5%
T	Provincial	264,264	79,623	64,409	34,415	31,750	79.5%
U	Local	309,090	75,917	128,452	41,034	32,753	90.0%
V	Top three (J+N+R)	4,176,357	1,013,264	1,553,830	479,359	503,237	85.0%
W	Public in top three (K+O+R)	3,096,609	759,682	1,118,029	366,369	364,842	
X	Public in top three as % of total public (W/G)	85.5%	85.3%	85.6%	87.1%	85.3%	
				SEPH as a % of LFS			
	All industries (A/F)	104.2%	98.8%	104.8%	104.0%	108.9%	
	Educational services (B/J)	103.9%	110.6%	100.0%	98.6%	102.8%	
	Health care and social assistance (C/N)	91.8%	85.3%	95.8%	80.8%	100.7%	
	Public administration (D/R)	115.1%	99.7%	112.8%	112.2%	117.1%	
	Total top three (E/V)	100.5%	95.4%	100.9%	92.5%	104.7%	

Source: Author's calculations from LFS PUMF and Master Files, and Statistics Canada Table 14-10-0223-01.

The Size of the Public Sector

Figure 3 presents the share of public sector employees as a percentage of the total population in Canada and in each of the four largest provinces using the LFS definition of public employees. Perhaps contrary to what is commonly thought, there has been practically no relative growth in the public sector this period: the national figure increases from 9.84 percent to 10.23 percent over the 42 years. Over this same period, the comparable figures for Alberta are 10.29 and 10.23 percent, respectively. Thus, public sector employment in both Canada and Alberta is about the same proportion of population as it was back in the mid-1970s. Quebec is the only province that has increased the relative size of its public sector, whereas it has fallen in Ontario and BC. These results by themselves are interesting given the increase in demand for services in two of the largest public sector industries—educational services and health care and social assistance—over this four-decade period. This is a consequence of increased demand for both secondary and post-secondary education (in the former case) and an aging population and the expansion of available services (in the latter case).

Figure 3: Public Sector Employees as a Percent of the Total Population, 1976–2018

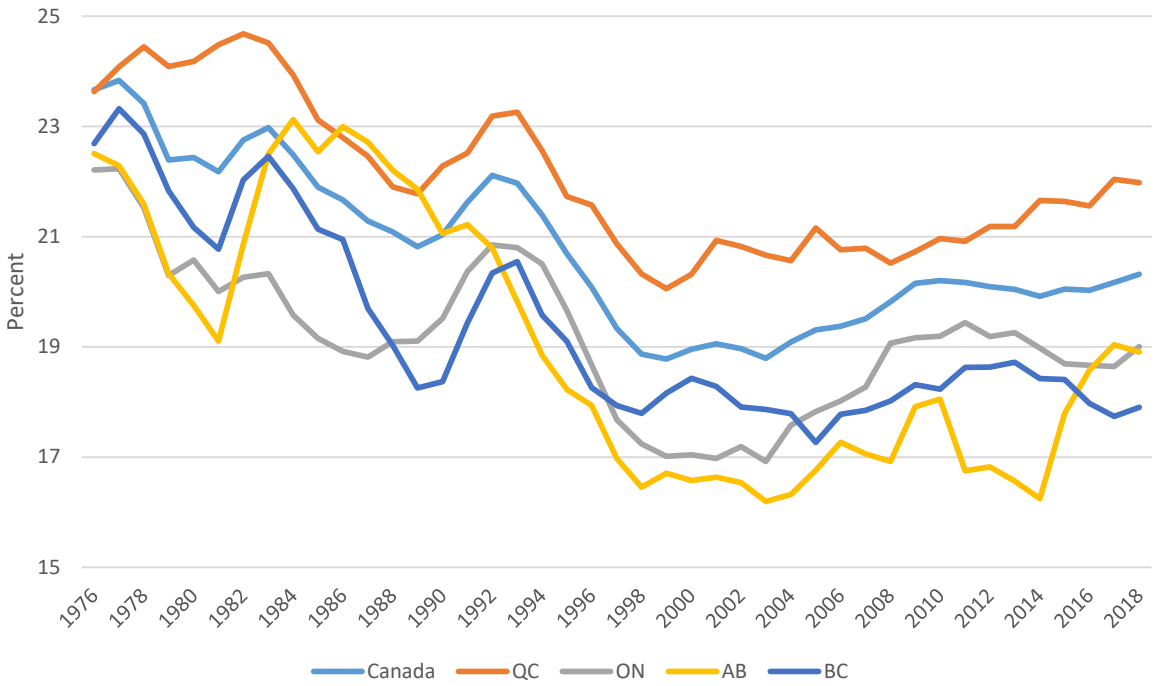


Source: Author's calculations from Statistics Canada Tables 17-10-0005-01 and 14-10-0027-01.

This comparison, however, does mask some important trends. First, the decline in relative public sector employment that occurred in the mid-1990s across almost all jurisdictions, including Alberta. Over this period the public sector grew in Alberta relative to the size of the population in the early 1980s (under Premier Lougheed), peaking at 11.2 percent of the population in 1986. The number of public employees stabilized under Premier Getty, but rapid population growth during this period meant that the relative number of public employees decreased. The number of public employees increased during the tenure of the Klein government, from 255,400 in 1993 to 330,100 in 2006, but again part of this growth is masked by overall population growth.[11] More recently, the uptick in the proportion of public employees since 2015 under the former NDP government is seen in this figure. As of 2018, the Alberta figure is identical to the national average.

Another way of measuring the size of public sector is relative to the size of all employment. Figure 4 presents these data, which show that public sector employment as a percentage of total employment—which includes all employees (both private and public) as well as the self-employed and unpaid family workers—has been falling, not only in Alberta, but generally throughout the country. Here recent expansion of the public sector in Alberta is still evident as the number of public sector employees in Alberta increased from 369,600 in 2014 to 440,700 in 2018. Over the same period, the number of private employees dropped to 1,488,800 from 1,521,100.[12] These two phenomena together explain this rise in the proportion of public sector employment in Alberta. Even after this increase Alberta has about the same proportion of public sector employment as Ontario (about 18.9 percent) and only British Columbia has a lower proportion (17.9 percent).[13]

Figure 4: Public Sector Employees as a Percent of Total Employment, 1976–2018



Source: Author's calculations from Statistics Canada Table 14-10-0027-01.

Together Figures 3 and 4 reflect several interesting facts. First, the size of the public sector has stayed about the same throughout Canada as a proportion of the population since 1976, somewhat surprising given the increased demand for public services such as education and health care (more on this below). Second, this relative size has not stayed the same over this period. For example, the cuts or freezes to public sector employment in the mid-1990s are evident in these data. Third, as a proportion of both total employment and total paid employment, the public sector has generally contracted. Fourth, and specific to Alberta, the relative size of the public sector increased by all three metrics under the Notley government, and in the latter two cases this is at least partially due to the decline in private sector employment as well as the increase in public sector employment.[14] Fifth, and arguably of paramount importance for current purposes, the size of the public sector in Alberta is still at our below the national average regardless of the metric used, even over the past four to five years when, as mentioned, the size of the public sector in Alberta grew.

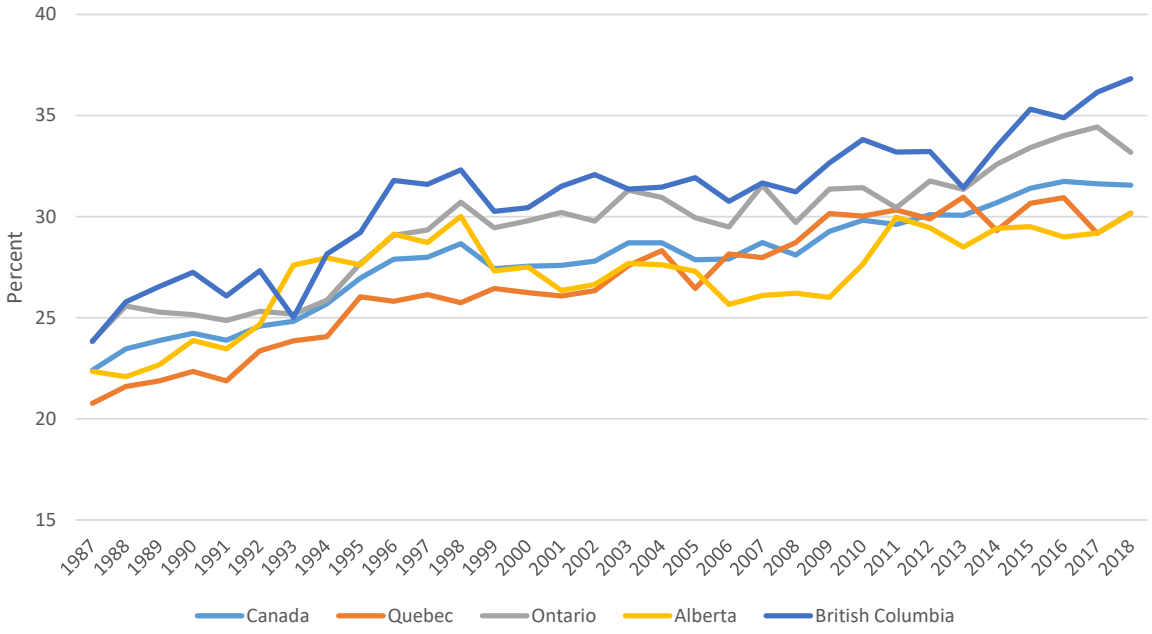
Detailed Public Sector Employment Trends

Mintz and MacKinnon (2017) break down employment into two large industries that are collectively composed of both private and public employees (i.e., educational services and health care and social assistance) and another industry where all workers are in the public sector (public administration). The former two industries do have large numbers of non-public sector workers involved in these sectors. For example, in educational services in 2016, 10 percent of all employees nationwide were not classified as public sector employees. In health care and social assistance, the comparable figure is 46.9 percent. For Alberta, these figures are about 8.5 percent and 42.1 percent, respectively, slightly lower than the national average (see Table 1 on page 13).

Since these data only show those directly employed in the public sector, another metric is needed to better reflect what is happening to employment in "public-sector type jobs." The past number of years has seen an increase in non-governmental employment due to the expansion of charter schools, private health clinics, health services performed outside of the public sector (e.g., massage therapists), and the privatization of previously government-owned entities (e.g., liquor stores in Alberta). Similar to MacKinnon and Mintz (2017), we look at the changes in employment by industry over this period. In particular, health care and social assistance, educational services, and public administration are three industries that perform the functions of the public sector, and yet not all of these jobs are held by public sector employees, at least in the case of the first two. Contract employees, and those employed by private schools and medical facilities are not considered to be public employees, even though they may be performing similar functions to those employed in the public sector.

Figure 5 addresses this trend away from public sector employment in these three industries since 1987 (the earliest year these disaggregated data are available). For Canada, 22.4 percent of all employment in these three industries was held by non-public sector employees, either those in the private sector or self-employed. This figure increased to 31.6 percent in 2018. Similar trends are observed for each of the four provinces. In the case of Alberta, this proportion grew to 30.6 percent in 2018 from the national average of 22.4 percent in 1987.

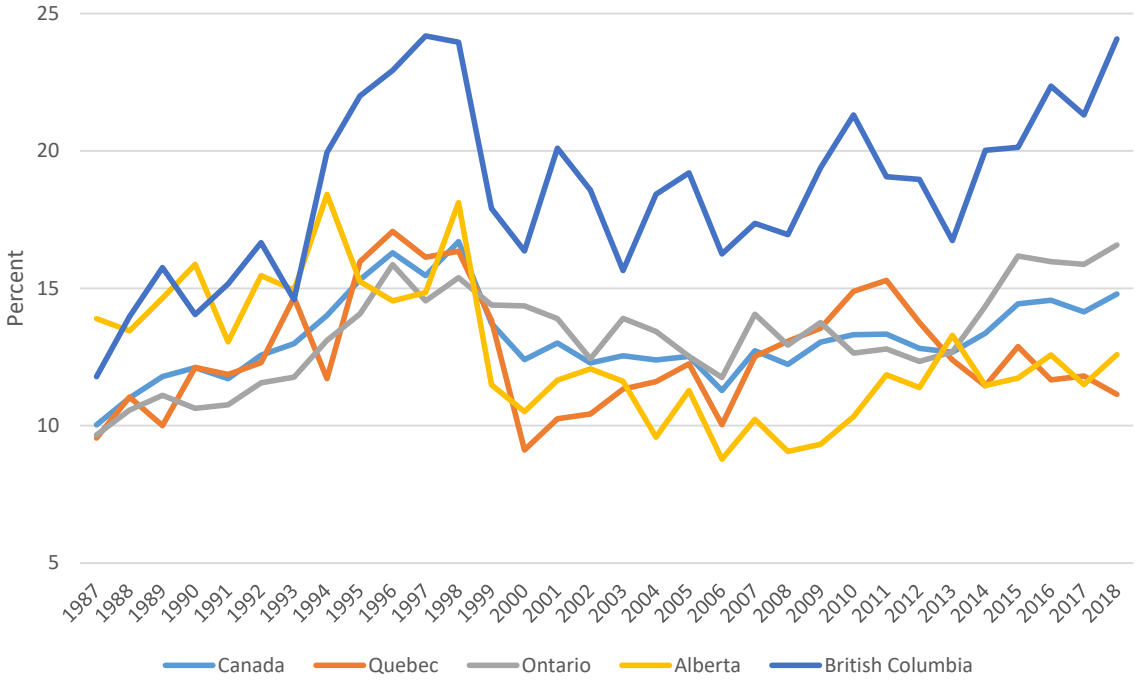
Figure 5: Proportion of Non-Public Sector Employment in Educational Services, Health Care and Social Assistance, and Public Administration, 1987–2018



Source: Author's calculations from Statistics Canada Table 14-10-0027-01.

To ascertain where this growth in non-public sector employment has occurred, we disaggregate both educational services and health care and social assistance in Figures 6 and 7.[15] For educational services, there is a nationwide upward trend over this period from 11 percent to 15 percent. Alberta goes against this trend with a slightly smaller proportion of non-public sector employment over this period. British Columbia moves the opposite direction, with a share that doubles from 12 to 24 percent.

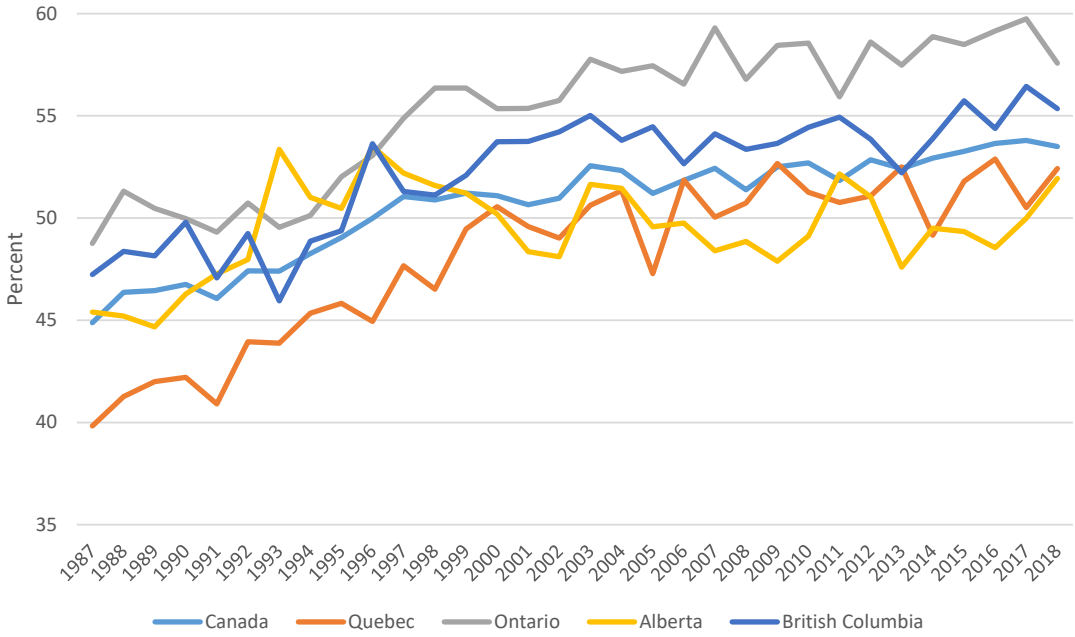
Figure 6: Proportion of Non-Public Sector Employment in Educational Services, 1987–2018



Source: Author's calculations from Statistics Canada Table 14-10-0027-01.

In the health care and social services industry (Figure 7), there is nationwide growth over this period of about 8.5 percentage points from 45 percent in 1987, with a similar upward trend in each of the four provinces.

Figure 7: Proportion of Non-Public Sector Employment in Health Care and Social Assistance, 1987–2018



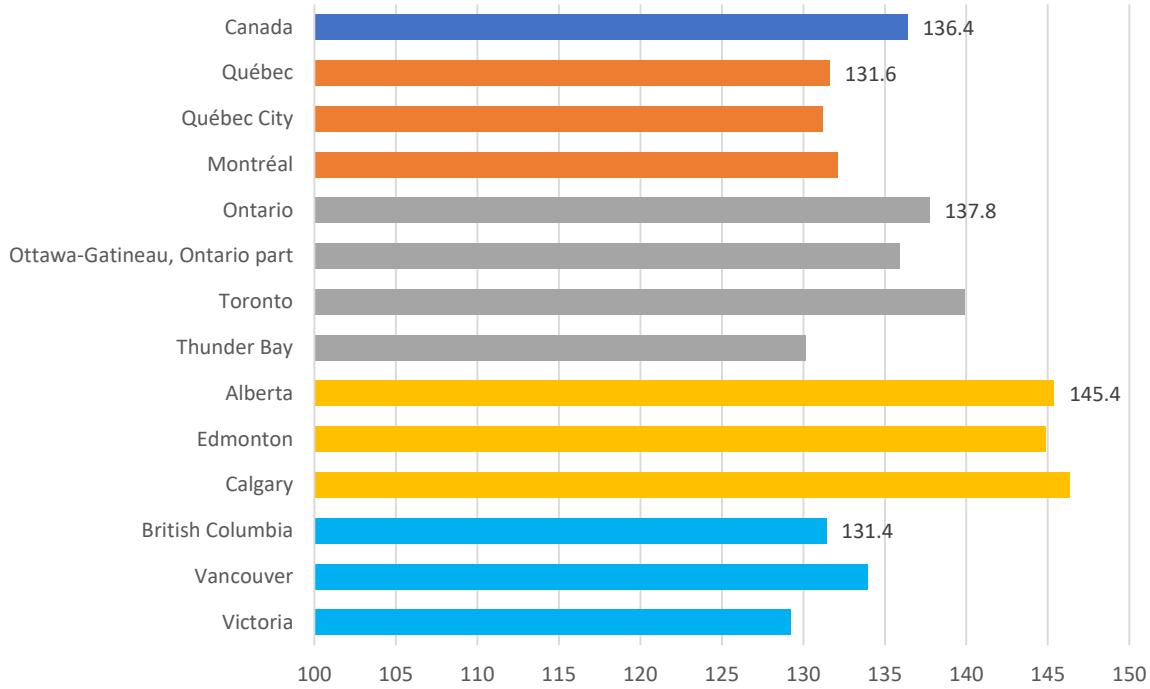
Source: Author's calculations from Statistics Canada Table 14-10-0027-01.

This distinction between public sector employees and private sector employees becomes important below when we discuss how earnings differ between the sectors. But for the moment, and to summarize this section, the size of Alberta's public sector does not appear to be anomalous compared to its four comparator jurisdictions. Indeed, despite its recent relative growth, partially due to the contraction of private sector employment, its size is generally below average by national standards and, in essence, Alberta's public sector has been "catching up" to its comparators since 2014.

Relative Real Weekly Earnings by Industry

It is widely known that nominal weekly earnings in Alberta are the highest in the country.[16] But since at least 2001, the consumer price index (CPI) has also advanced more in Alberta than in any of its comparator jurisdictions. Figure 8 shows that while inflation advanced by 36.4 percent in Canada, it was nine percentage points higher in Alberta over the same period.

Figure 8: Consumer Price Index, Not Seasonally Adjusted, 2001–2018, Selected Jurisdictions

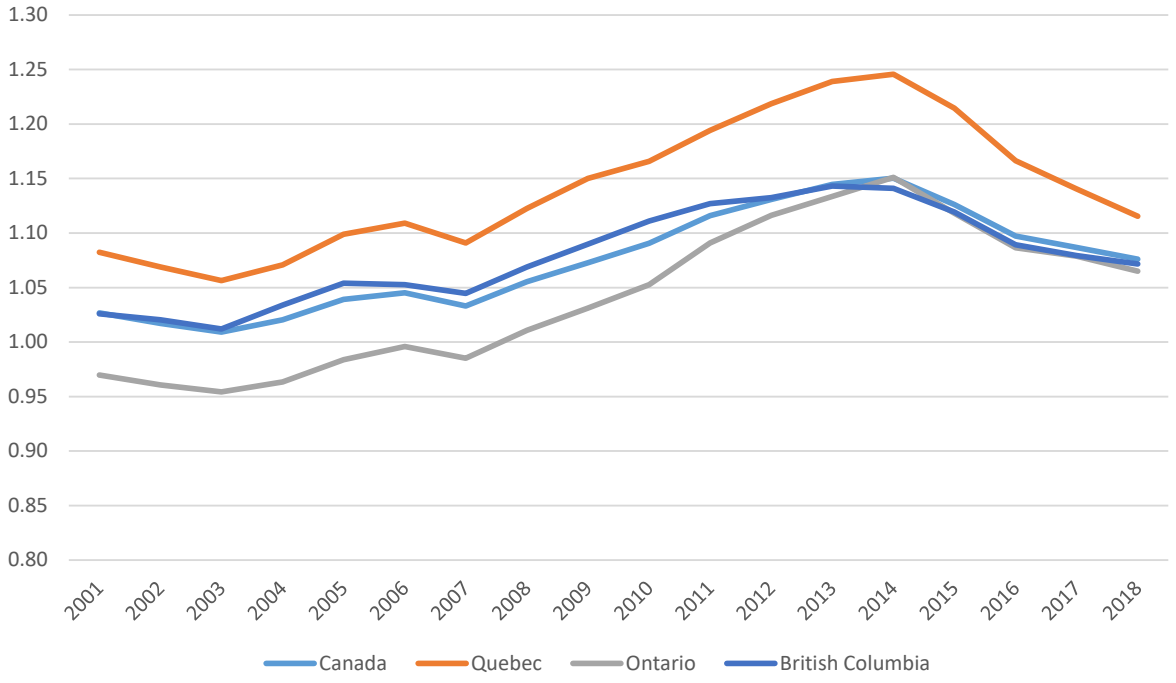


Source: Author's calculations from Statistics Canada Table 18-10-0005-01.

As such, it is important that any earnings comparisons between Alberta and other jurisdictions consider these different inflation rates. Figures 9 through 12 use the SEPH data and show how real weekly earnings at the aggregate level and in the three major public sector industries in Alberta compare to the other jurisdictions.

Figure 9 shows how overall average real weekly earnings in Alberta compared to the Canadian average, as well as compared to the three biggest provinces. These figures are simply average real weekly earnings in Alberta divided by average real weekly earnings each of the 18 years (i.e., numbers greater than one indicate that relative earnings in Alberta are higher than in the comparator jurisdiction while numbers less than one indicate that earnings in Alberta are lower). Since 2001, average overall earnings in Alberta have exceeded those in each of the jurisdictions except Ontario, where Alberta earnings surpassed those in that province in 2008. The pattern of relative real earnings is the same, regardless of comparator jurisdiction, and reflects the boom in compensation in the province at the beginning of this period as well as the decline since mid-2014, when oil prices began to decline rapidly. In 2014, average earnings in Alberta were some 15 percent higher than the national and Ontario average, and 25 percent higher than in Quebec. The downturn in the provincial economy has meant that the

Figure 9: Relative Real Weekly Earnings (Including OT) in Alberta, All Industries, 2001–2018



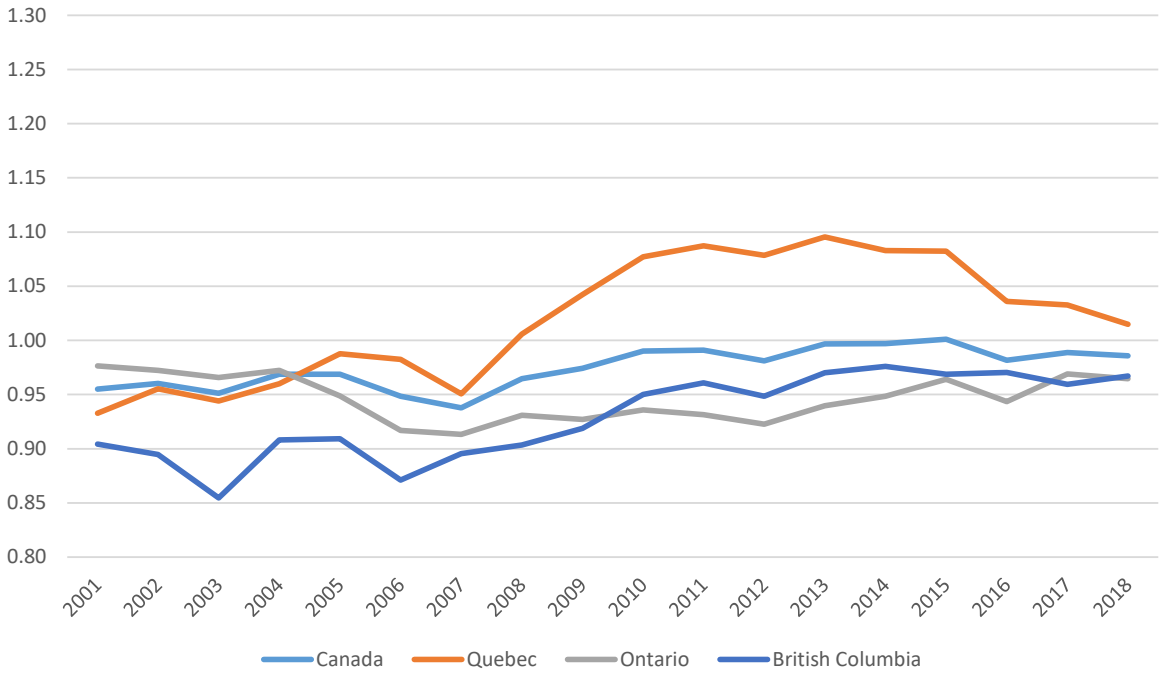
Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

Alberta wage advantage has declined to 8 percent compared to the national average, but in 2018 relative real earnings are still higher than in all other jurisdictions.

To compare the three industries largely (or exclusively in the case of public administration) populated by public employees, we turn our attention to real weekly earnings data disaggregated into three industries: educational services, health care and social assistance, and public administration. Figures 10, 11, and 12 present these figures. It should be noted that these figures presented for 2016 are identical to those that can be derived from the data in MacKinnon and Mintz (2017).

Coinciding with the overall relative real earnings growth in Alberta beginning in the mid-2000s, we see the same general pattern here in educational services (Figure 10). Relative real earnings, however, are lower in Alberta over the period in all cases except for Quebec, where earnings in Alberta were 10 percent higher in 2013 before falling to near parity in 2018.

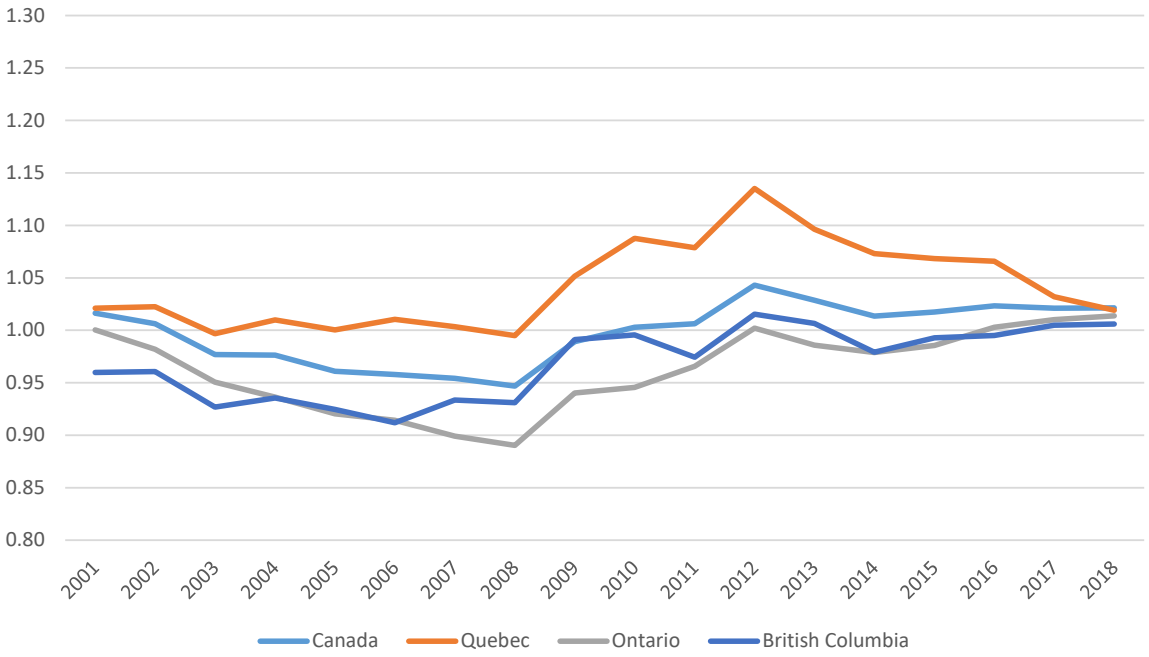
Figure 10: Relative Real Weekly Earnings (Including OT) in Alberta, Educational Services, 2001–2018



Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

Turning our attention to the health care and social assistance industry in Figure 11, a now-familiar pattern is evident: relative real weekly earnings are less than the overall earnings differential, with the largest differential with Quebec and the smallest with Ontario, at least until recently when the Alberta advantage is only 1 to 2 percent. Here we see comparatively low relative earnings in Alberta in the early 2000s, followed by growth after 2008, and then by a stable differential since 2012 with Canada, Ontario and British Columbia.

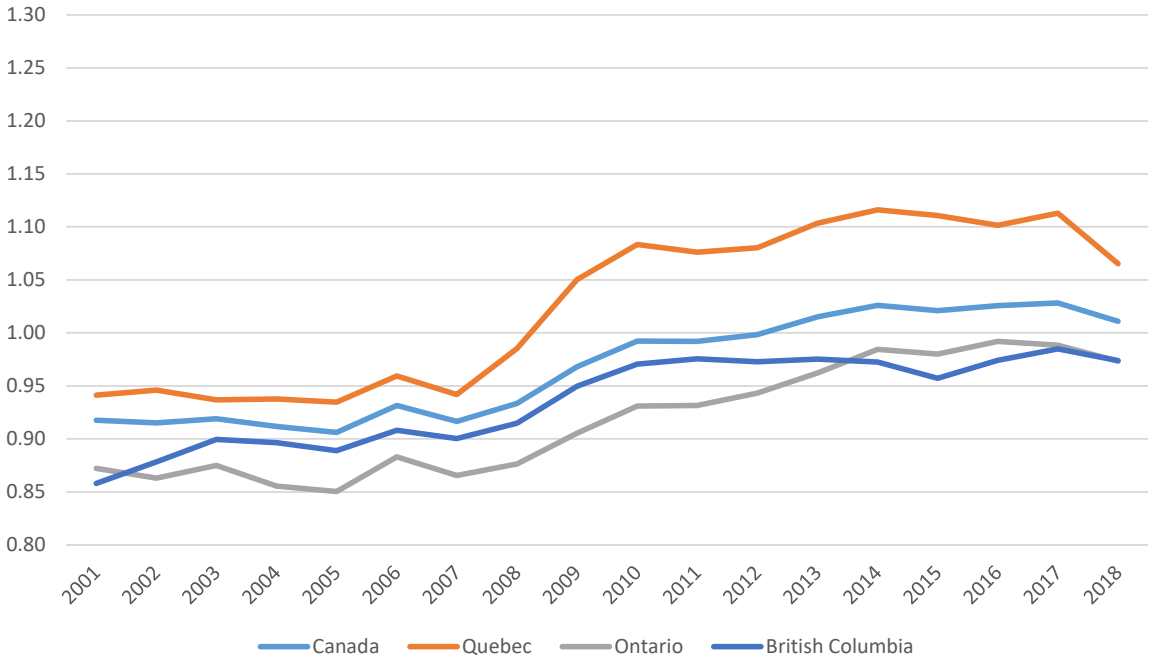
Figure 11: Relative Real Weekly Earnings (Including OT) in Alberta, Health Care and Social Assistance, 2001–2018



Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

Finally, Figure 12 address the relative real earnings differentials in the public administration industry. Again, we see negative relative earnings at the start of the period that climb following 2007 and then show little or no growth towards the end of the period. Also, we see the same pattern with respect to the three comparator provinces, with larger earnings differentials compared to Quebec, followed by British Columbia and Ontario, where the differentials are in fact negative over the entire period of analysis.

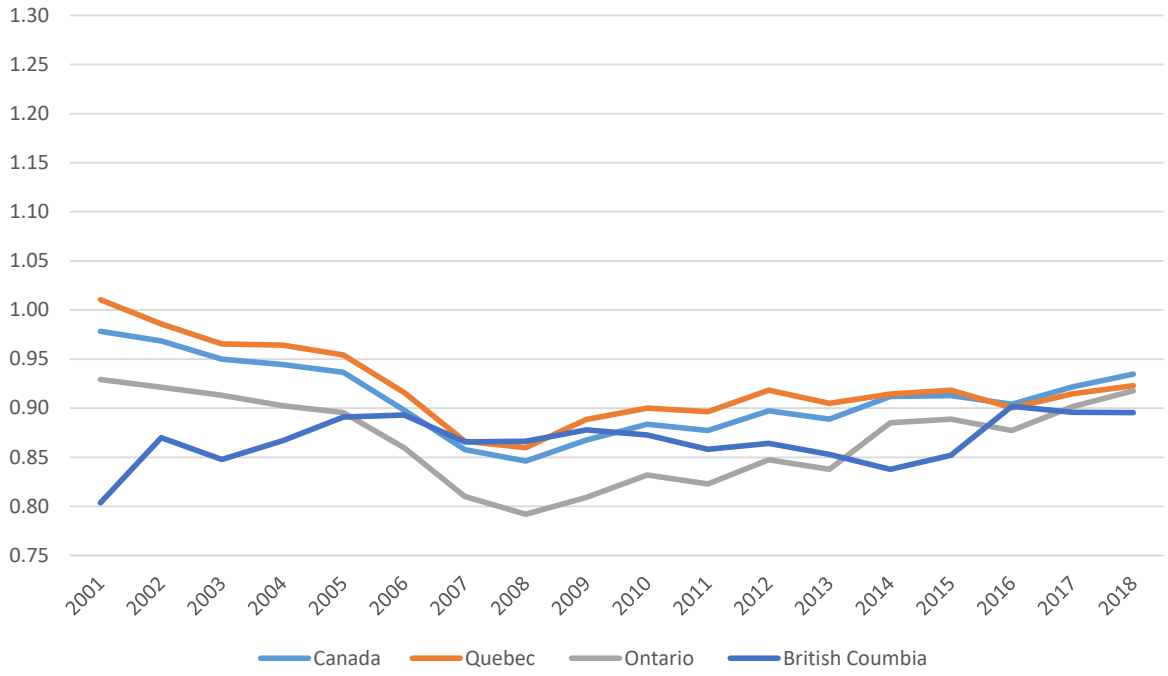
Figure 12: Relative Real Weekly Earnings (Including OT) in Alberta, Public Administration, 2001–2018



Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

Figures 13–15 disaggregate the public administration industry into its three major sub-industries: federal, provincial, and local administration. Federal employees in Alberta (Figure 13) have earned less than their counterparts in all other jurisdictions in almost all cases. Most recently, those in Alberta have real weekly earnings some seven to 10 percent *less* than in other regions.

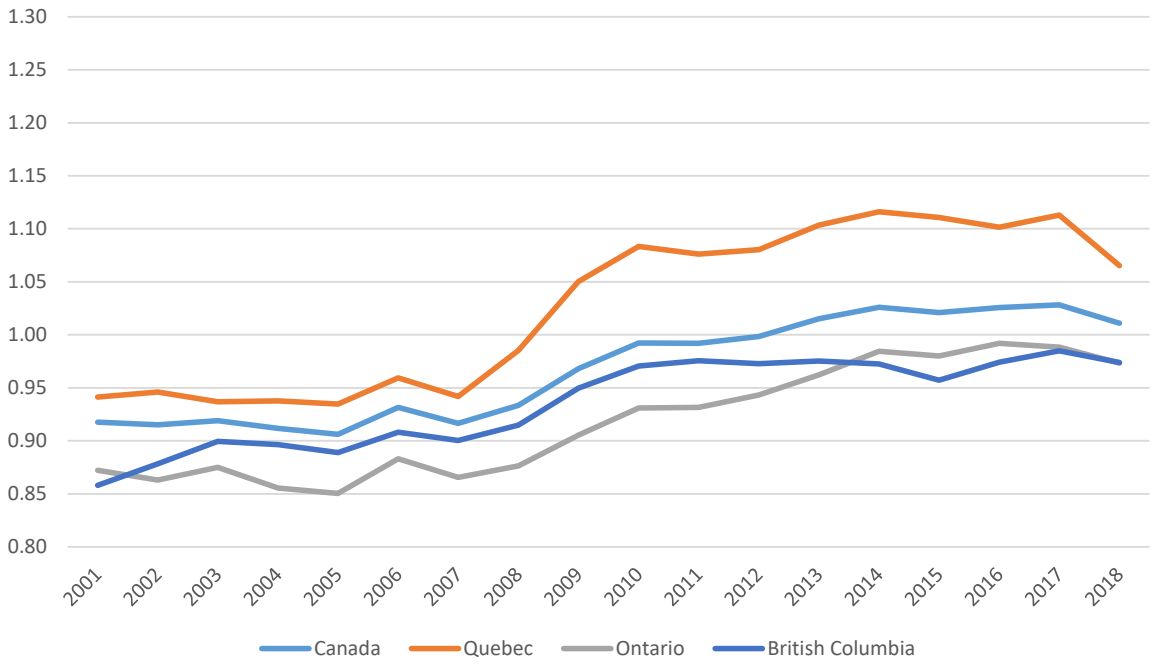
Figure 13: Relative Real Weekly Earnings (Including OT) in Alberta, Federal Public Administration, 2001–2018



Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

The outcome for provincial employees in Alberta (Figure 14) is more positive, with earnings increasing relative to the other regions throughout most of the period. Still, real weekly earnings in Alberta were only four percent higher than the national average in 2018, but lower than both Ontario and BC.

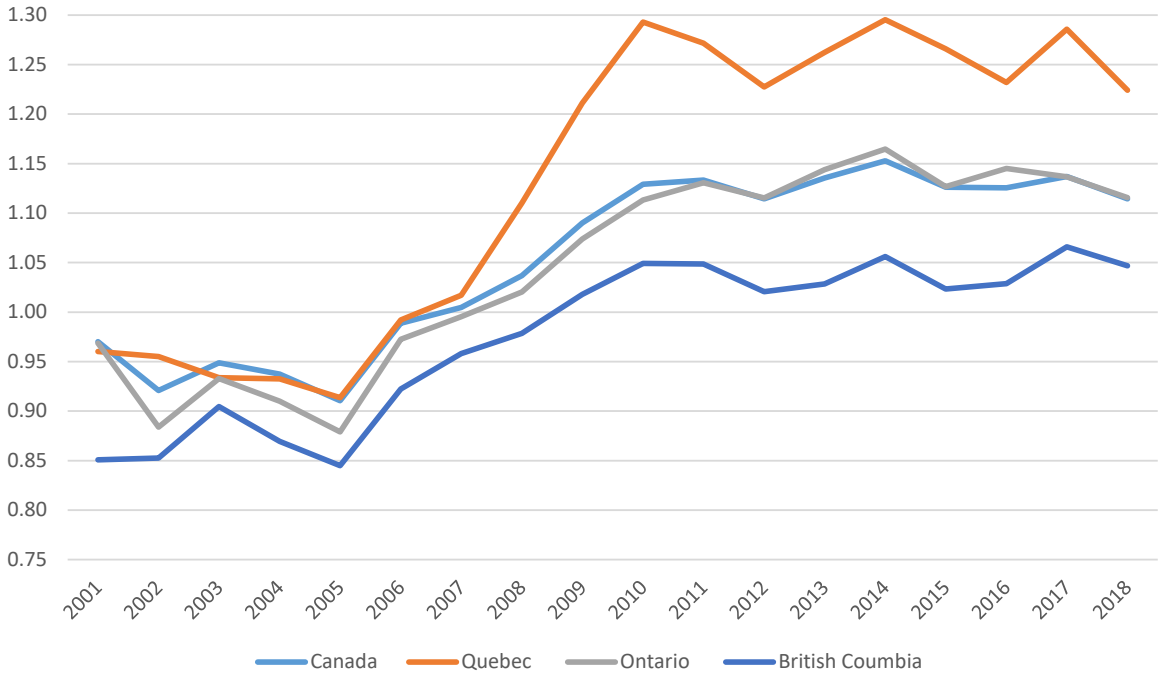
Figure 14: Relative Real Weekly Earnings (Including OT) in Alberta, Provincial Public Administration, 2001–2018



Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

Local (or municipal) employees in Alberta (Figure 15), by contrast, appear to be doing somewhat better, a least recently. Prior to 2006, Albertans in local administration had real weekly earnings below those of all other jurisdictions. Real weekly earnings in Alberta then increased rapidly, especially relative to Quebec. In 2018, these earnings were some 12 percent higher than those in Ontario and nationwide.

Figure 15: Relative Real Weekly Earnings (Including OT) in Alberta, Local Public Administration, 2001–2018



Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

In sum, the data in this section show that overall real weekly earnings in Alberta are above those in Canada and its three largest provinces, but in each of the three public sector industries under consideration real weekly earnings in Alberta do not tend to be the highest in the country; in fact, they are often at or below those of other jurisdictions. It is also noteworthy that real weekly earnings in Alberta were normally below those in other regions until the mid-2000s, meaning that Albertans had some catching up to do relative to those in other provinces. This is the same time period where overall real weekly earnings started to rise rapidly relative to the other regions.

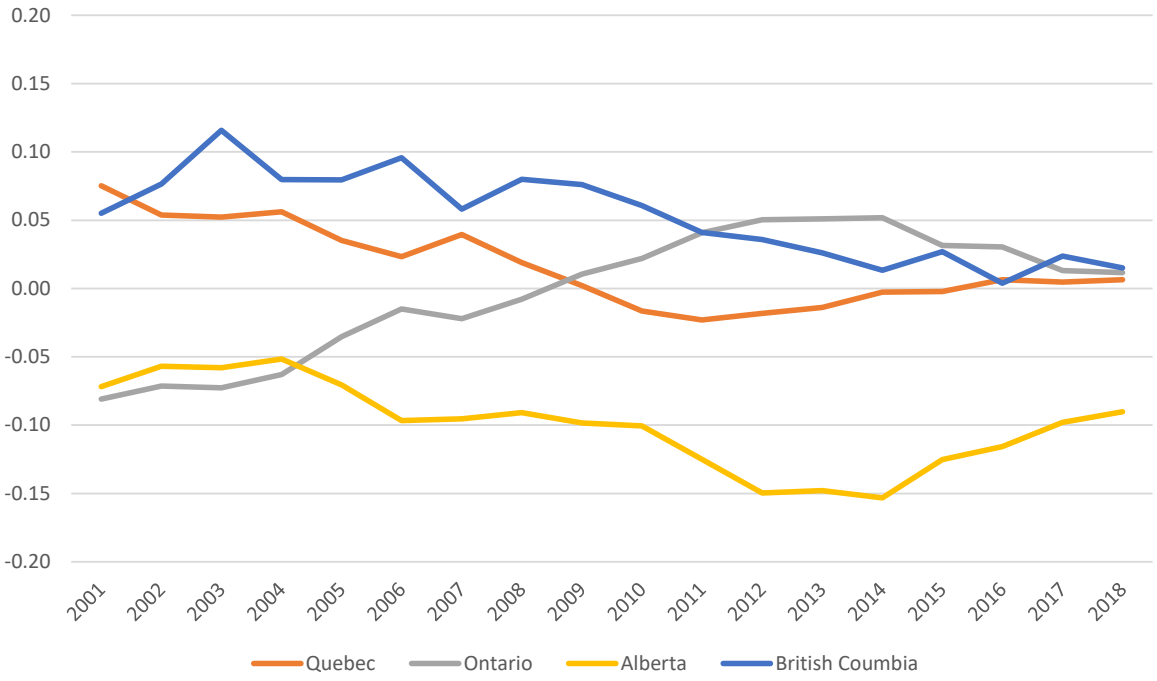
Relative Real Weekly Earnings by Industry—A Difference-in-Difference Approach

We have already seen that Alberta has the highest overall real weekly earnings in the country, a factor which certainly impacts those in the public sector, as public sector employers need to offer competitive compensation to attract and retain employees. To better understand relative earnings differentials, we employ a difference-in-difference methodology to address relative differences. Here we compare the relative earnings differences in

each of our three industries of interest with the overall earnings differential using the same comparator jurisdictions. For example, if earnings in educational services were, say, 10 percent higher in Alberta than the national average, and overall earnings are also 10 percent higher, then the difference-in-difference would be zero, suggesting that compensation in educational services is comparable to the economy-wide average. If these same wages in education services were, say, 12 percent higher than the national average, then the difference-in-difference would be 2 percentage points, perhaps suggesting overpayment to educational services workers in the province. Figures 16 through 18 show these results for our three industries and four provinces of interest.[17]

In educational services (Figure 16), we see that the earnings advantage in educational services is minimal, at least recently, and for Quebec, Ontario and British Columbia where there is only a zero to three percentage point earnings advantage, at least over the final four years in these data. For Alberta, what was a 15 percentage point earning disadvantage in 2014 has decreased to a nine percentage point disadvantage in 2018, the result of both relatively stable earnings in this sector and the decline of overall wages in the province relative to the national average.

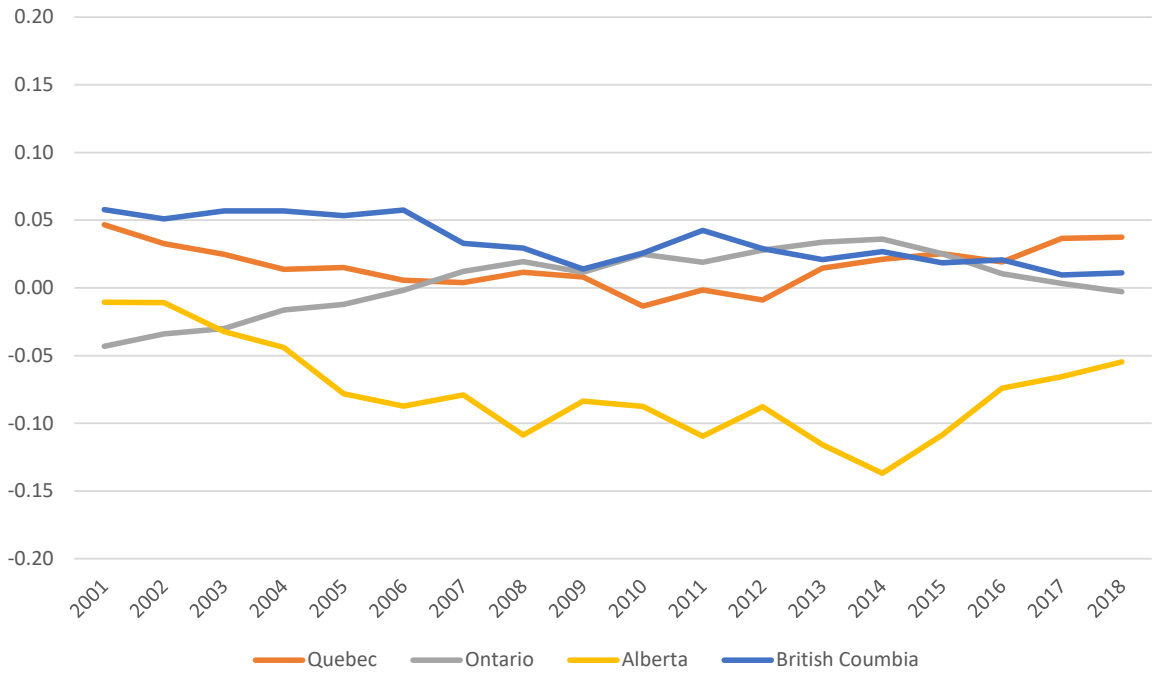
Figure 16: Difference-in-Difference of Provincial Real Weekly Earnings (Including OT), Educational Services, 2001–2018



Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

Figure 17 shows data from the same exercise, but now focusing on the health care and social assistance industry. Here the pattern is similar: Quebec, Ontario and British Columbia are in the zero to four percentage point range over the past few years, whereas Alberta is consistently less than zero percentage points, and as low as minus 14 percentage points in 2014.

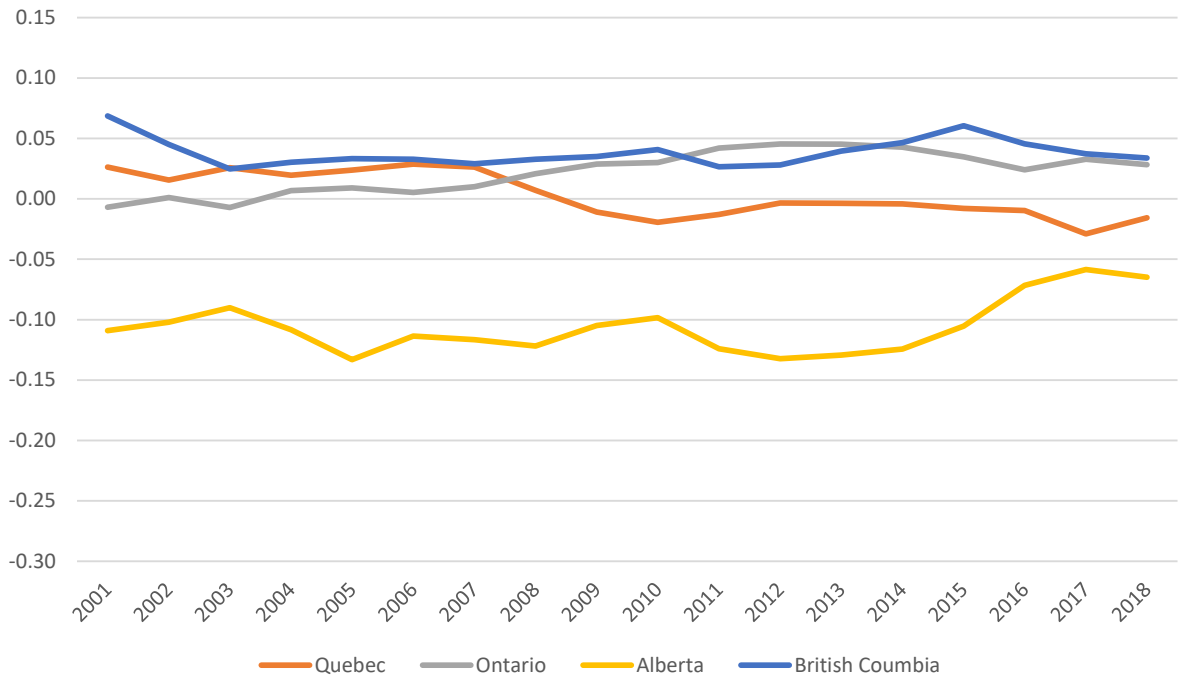
Figure 17: Difference-in-Difference of Provincial Real Weekly Earnings (Including OT), Health Care and Social Assistance, 2001–2018



Source: Author's calculations from Statistics Canada Tables 14-10 -0204-01 and 18-10-0005-01.

Finally, Figure 18 compares relative real weekly earnings for those in public administration. The same general pattern is obvious again, with the major difference that only Ontario and British Columbia have relative earnings premiums. Quebec has a small relative earnings penalty, at least since 2015, while Alberta's public administration employees had a penalty of 12–13 percentage points in the early 2010s. As with the two other industries, this relative wage disadvantage has become smaller since the current economic downturn hit the Alberta economy.

Figure 18: Difference-in-Difference of Provincial Real Weekly Earnings (Including OT), Public Administration, 2001–2018

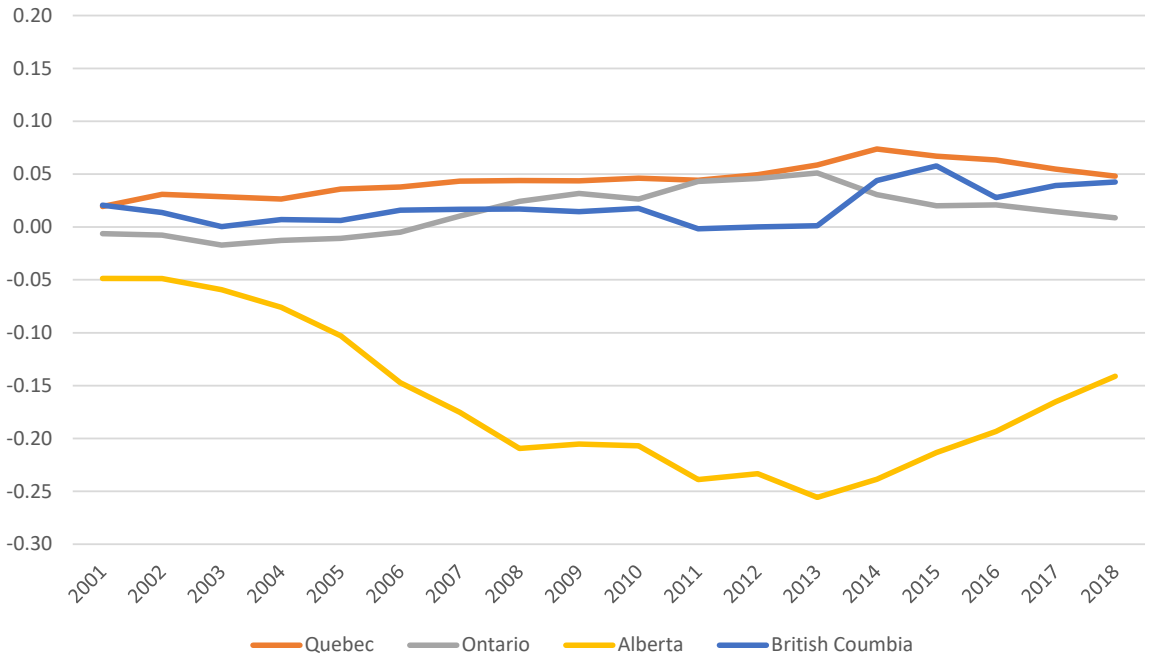


Source: Author's calculations from Statistics Canada Tables 14-10 -0204-01 and 18-10-0005-01.

Since public administration can be broken down into its three largest sub-industries, we again employ the difference-in-difference methodology to federal, provincial, and local administration employees in Figures 19 through 21, respectively.

For federal public administration employees, all provinces except Alberta have real weekly earnings that hover in the zero to five percent range, meaning that federal administration employees in these provinces are paid more relative to those in all industries. The results for Alberta are quite different, showing a consistent negative relative earnings disadvantage, reaching its nadir of minus 26 percentage points in 2013 before increasing again to minus 14 percentage points in 2018.[18]

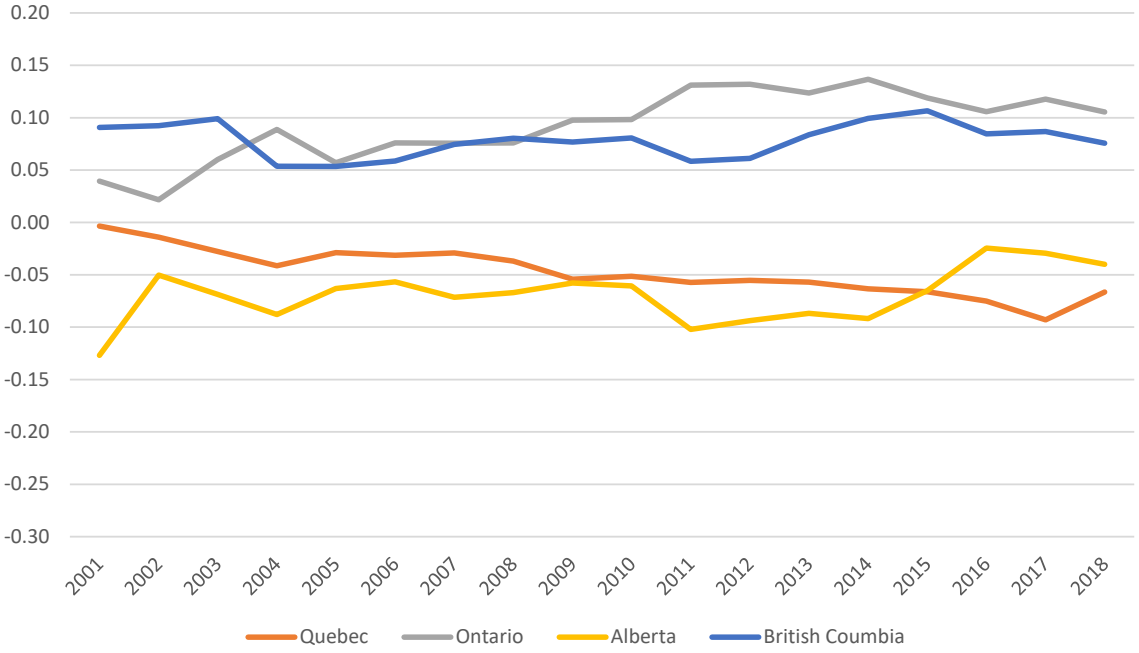
Figure 19: Difference-in-Difference of Provincial Real Weekly Earnings (Including OT), Public Administration, 2001–2018



Source: Author's calculations from Statistics Canada Tables 14-10 -0204-01 and 18-10-0005-01.

For provincial administration employees (Figure 20), the picture is quite different. In both Ontario and British Columbia the relative real weekly earnings advantage is in the 5 to 15 percentage point range, depending on the year. For these employees in Quebec, these earnings were at par in 2001 and slipped to minus 10 percentage points in 2017. In Alberta, relative earnings are below zero throughout the period, increasing at the end of the period, largely the result of decreased real earnings in the private sector in Alberta since 2014.

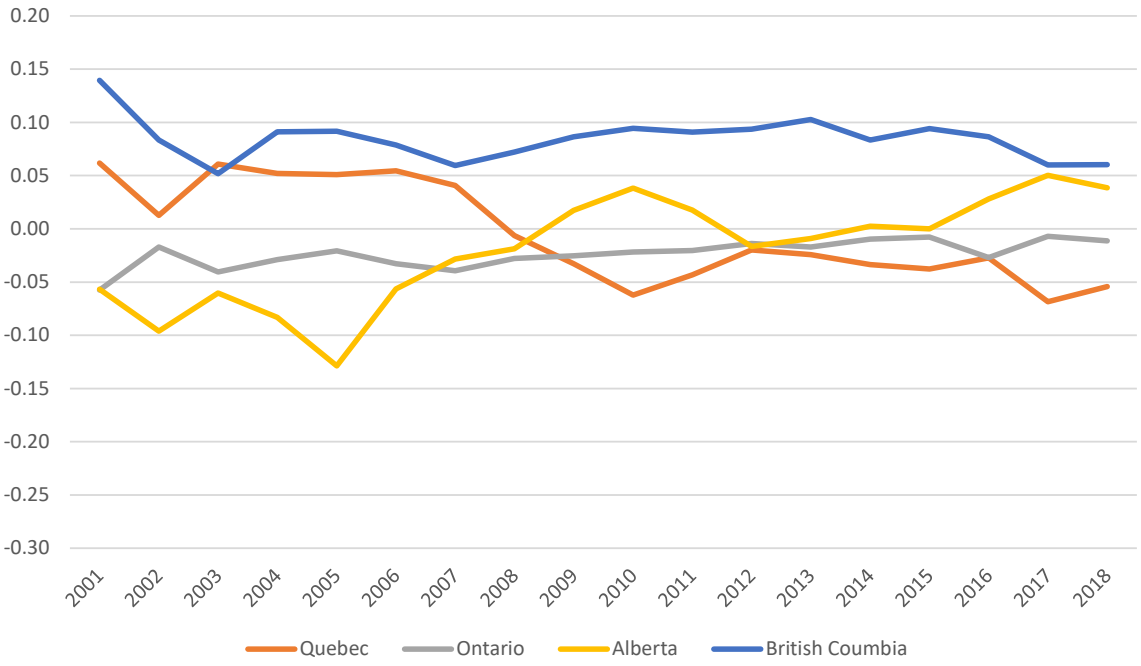
Figure 20: Difference-in-Difference of Provincial Real Weekly Earnings (Including OT), Provincial Public Administration, 2001–2018



Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

Lastly, the earnings of local public administration employees are presented in Figure 21. In Alberta, these relative real weekly earnings increased since 2001, but never exceed five percentage points. Again, the recent uptick is due to the decline in real weekly earnings across the province, rather than due to an increase in the real earnings of this group.

Figure 21: Difference-in-Difference of Provincial Real Weekly Earnings (Including OT), Local Public Administration, 2001–2018



Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

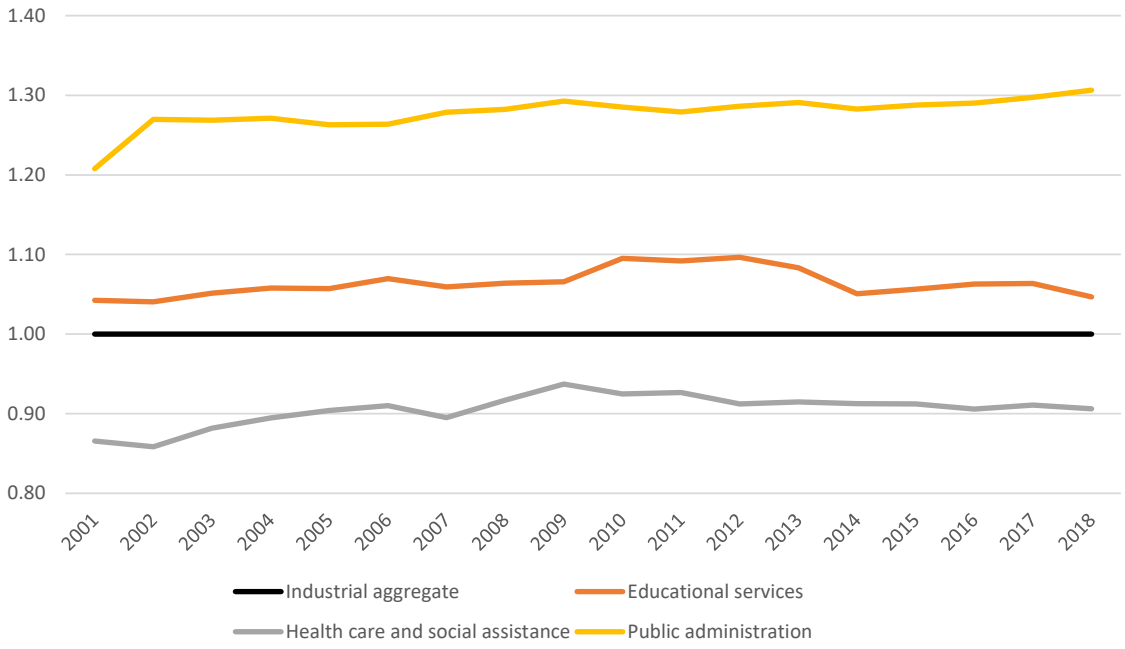
In sum, within our three industries and four provinces of interest, we find that relative to overall wages, Alberta employees in these industries tend to suffer a wage penalty, although this penalty has diminished since the mid-2010s, coinciding with the recent downturn in the Alberta economy and the commensurate decline in overall real weekly earnings. Employees in these three industries in Alberta do have earnings that tend to be higher than in other sectors, but earnings in Alberta in these other sectors tend to be proportionately higher than in the other provinces, putting Albertans in these public sector jobs at a relative earnings disadvantage (the exception is local government administration employees). Furthermore, the recent increase in relative public employee real earnings is almost exclusively the result of lower overall real earnings, which fell from $841 per week (in 2001 dollars) in 2014 to $790 in 2018. For educational services employees in the province, real earnings fell from $766 to $757 over this same period. Health care and social assistance employees saw a modest increase of three dollars a week to $679, and public administration workers had their real earnings increase to $969 per week in 2018, up from $962 four years earlier.[19]

Relative Real Weekly Earnings Within Jurisdictions

We now turn our attention to differences in real weekly earnings within each jurisdiction in order to better ascertain how public sector earnings compare to earnings for the industrial aggregate (i.e., overall real weekly earnings).

Figures 22 to 26 show the comparable results for Canada and each of the four largest provinces. For Canada (Figure 22), employees in educational services are compensated marginally higher than average, in the range of four to nine percent, while public administration employees have real earnings that are 20 to 31 percent higher. It is only employees in health care and social assistance that have real earnings below the industrial average, between 6 and 14 percent lower.

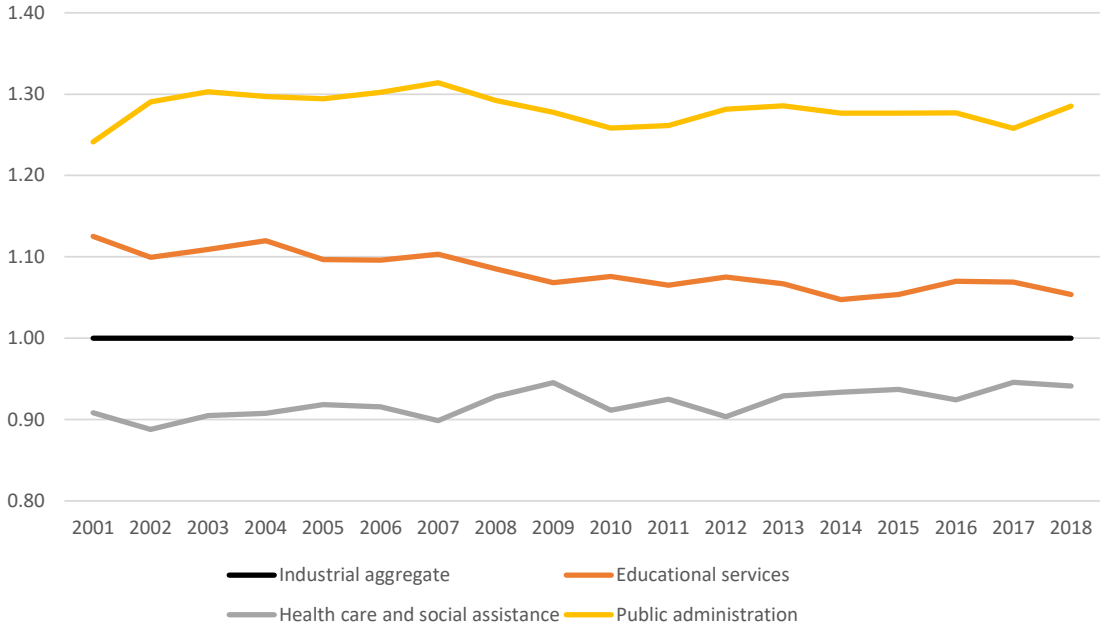
Figure 22: Relative Average Real Weekly Earnings (Including OT) in the Public Sector, Canada, 2001–2018



Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

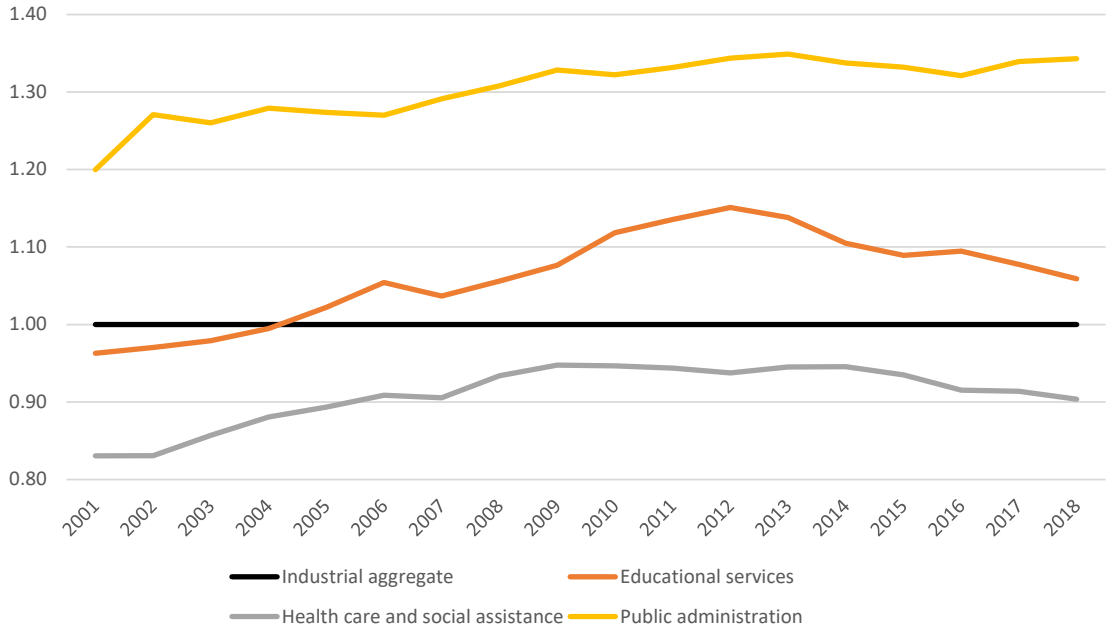
For the three largest provinces (Figures 23 to 25), the pattern is the same, with public administration earnings much higher than those in educational services, which in turn are higher than earnings in health care and social assistance. It is only the latter industry where relative earnings tend to be below overall provincial real weekly earnings.

Figure 23: Relative Average Real Weekly Earnings (Including OT) in the Public Sector, Quebec, 2001–2018



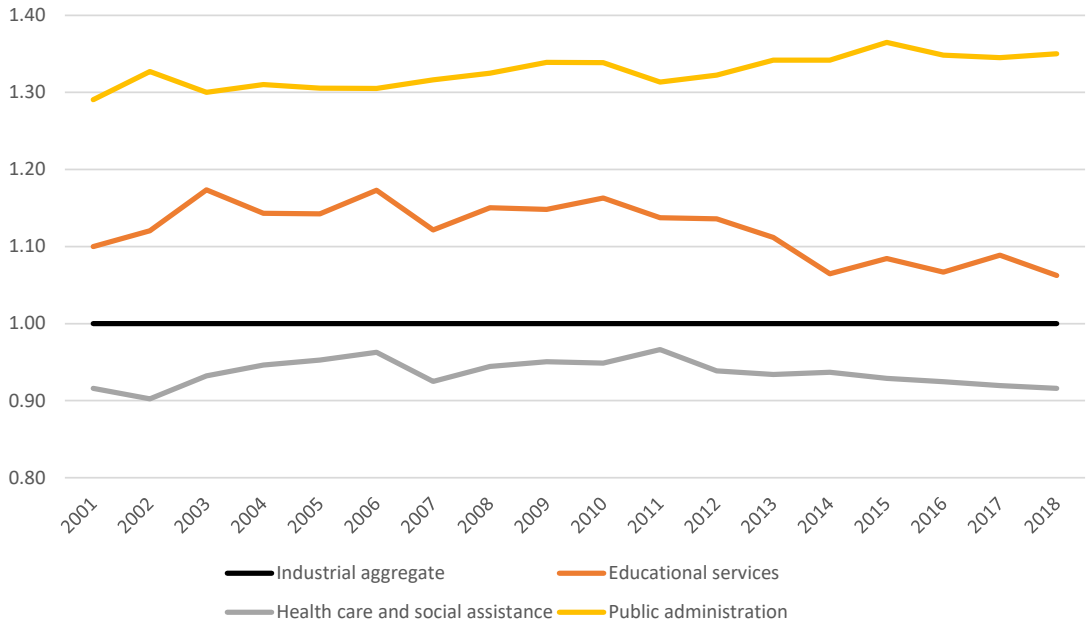
Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

Figure 24: Relative Average Real Weekly Earnings (Including OT) in the Public Sector, Ontario, 2001–2018



Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

Figure 25: Relative Average Real Weekly Earnings (Including OT) in the Public Sector, British Columbia, 2001–2018

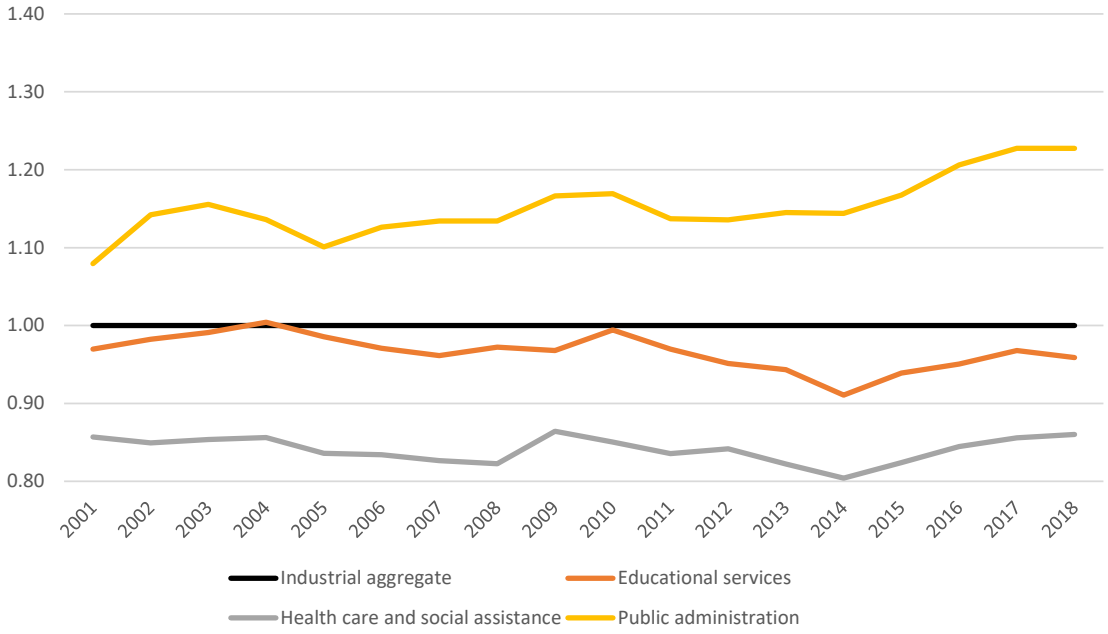


Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

"What sets apart Alberta is that earnings in these three sectors are all lower relative to overall earnings which, as we have seen, are much higher in Alberta compared to other jurisdictions."

The general pattern seen for the other provinces is evident in Alberta (Figure 26) as well, with public administration earnings the highest, followed by educational services, and health care and social assistance at the bottom. What sets apart Alberta is that earnings in these three sectors are all lower relative to overall earnings which, as we have seen, are much higher in Alberta compared to other jurisdictions. Even though public administration earnings are higher than the industrial average in Alberta, the recent 20-plus percentage point premium is still less than the relative premium in the other provinces. Furthermore, the increase in relative earnings in the three public sector industries following 2014 is again due to the decline in overall earnings, not because of any large earnings increases in any of the public sector industries. Overall real weekly earnings fell by six percent between 2014 and 2018 but stayed relatively constant in the other three industries as noted above.[20]

Figure 26: Relative Average Real Weekly Earnings (Including OT) in the Public Sector, Alberta, 2001–2018

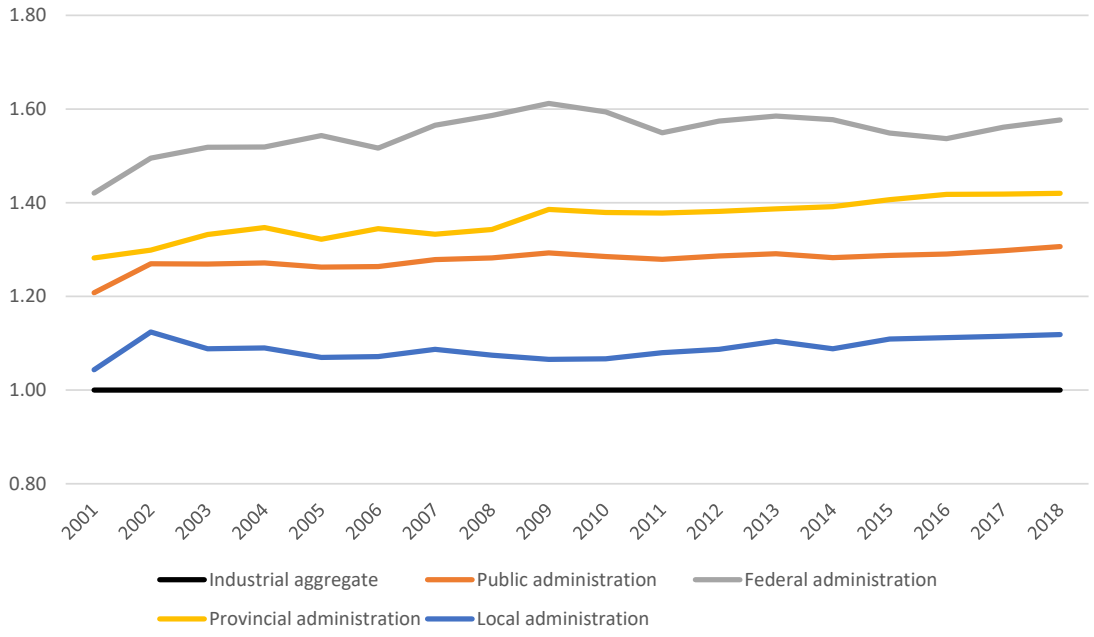


Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-0.

In sum, within-jurisdiction real weekly earnings show a similar pattern in each comparator province, but for Alberta these real weekly earnings tend to be lower in the three public sector industries relative to the industrial average.

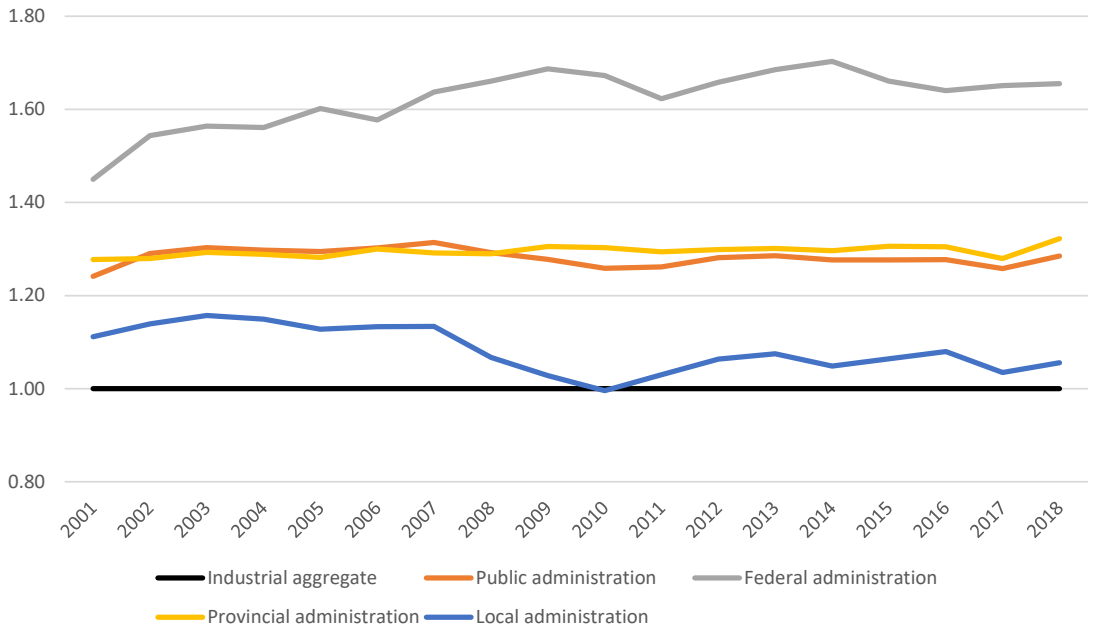
The public administration industry can again be broken down again into its three largest sub-industries and earnings in each can be compared to the overall earnings as well as those in the aggregated public administration industry. Figure 27 contains these calculations for Canada, followed by Figures 28 to 31 which show the comparable results for the four provinces. Relative real earnings for the aggregated public administration industry will be identical to those presented in the previous section. For Canada and the three largest provinces the same general pattern is evident, with relative real weekly earnings in federal administration the highest, followed by provincial and local administration.

Figure 27: Relative Average Real Weekly Earnings (Including OT), Detailed Public Administration Industry, Canada, 2001–2018



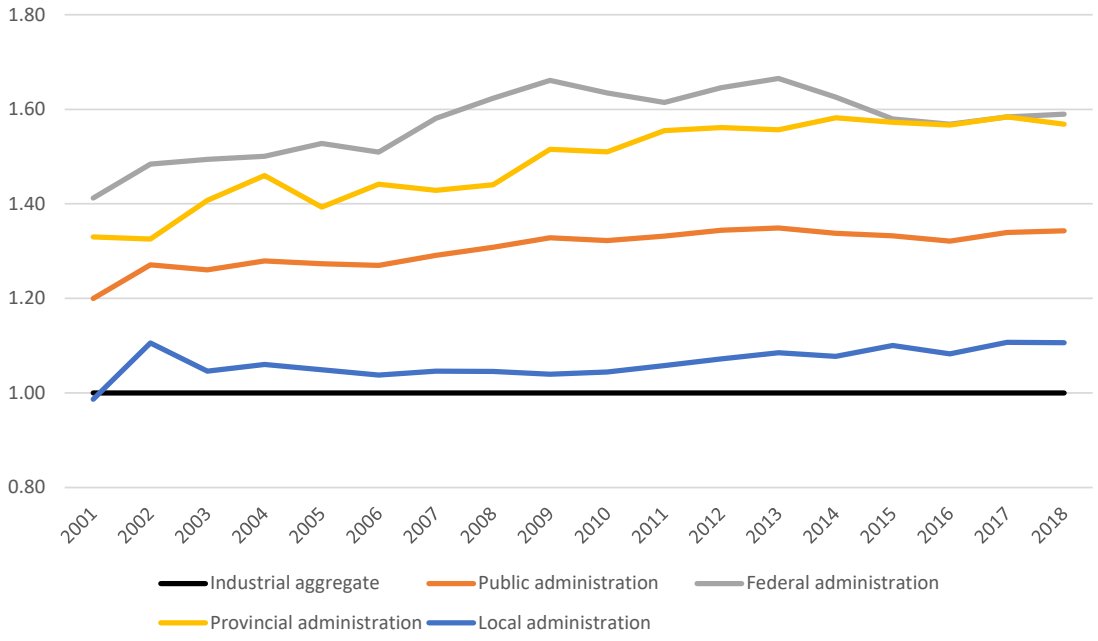
Source: Author's calculations from Statistics Canada Table 14-10-0204-01 and 18-10-0005-01.

Figure 28: Relative Average Real Weekly Earnings (Including OT), Detailed Public Administration Industry, Quebec, 2001–2018



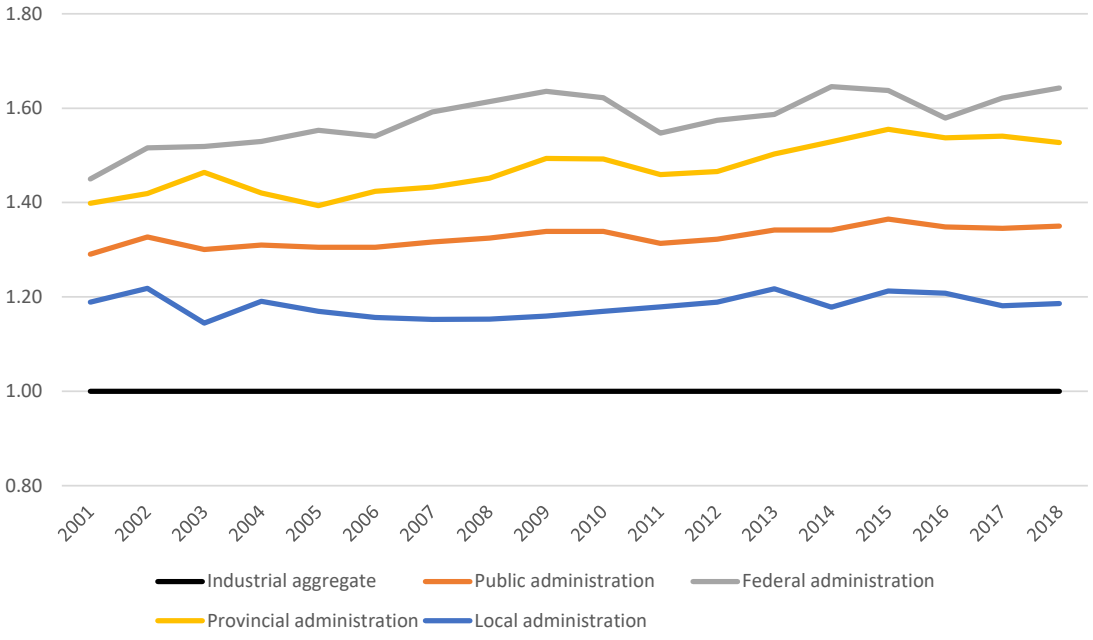
Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

Figure 29: Relative Average Real Weekly Earnings (Including OT), Detailed Public Administration Industry, Ontario, 2001–2018



Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

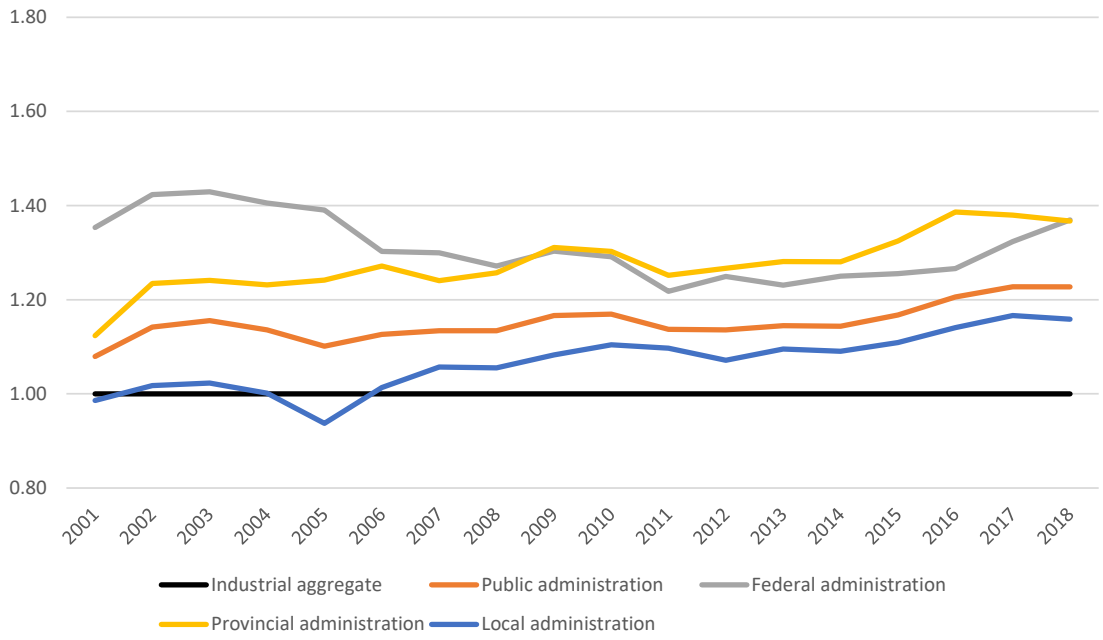
Figure 30: Relative Average Real Weekly Earnings (Including OT), Detailed Public Administration Industry, British Columbia, 2001–2018



Source: Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

For Alberta (Figure 31), the pattern is similar, but again any relative earnings differentials are much smaller than in the other provinces and compared to the Canada-wide relative earnings data, with the uptick since 2014 again due to declining real earnings throughout the Alberta economy. In other words, the public sector premium in Alberta is much more compressed compared to the other jurisdictions. Digging deeper into these numbers, we find that real weekly earnings were stable for local and provincial administration employees in Alberta between 2014 and 2018 (decreasing by about $2 per week in the former case and increasing by $3 per week in the latter case), with real weekly earnings increasing by $30 per week to $1,082 in 2018 for federal administration employees.[21]

Figure 31: Relative Average Real Weekly Earnings (Including OT), Detailed Public Administration Industry, Alberta, 2001–2018



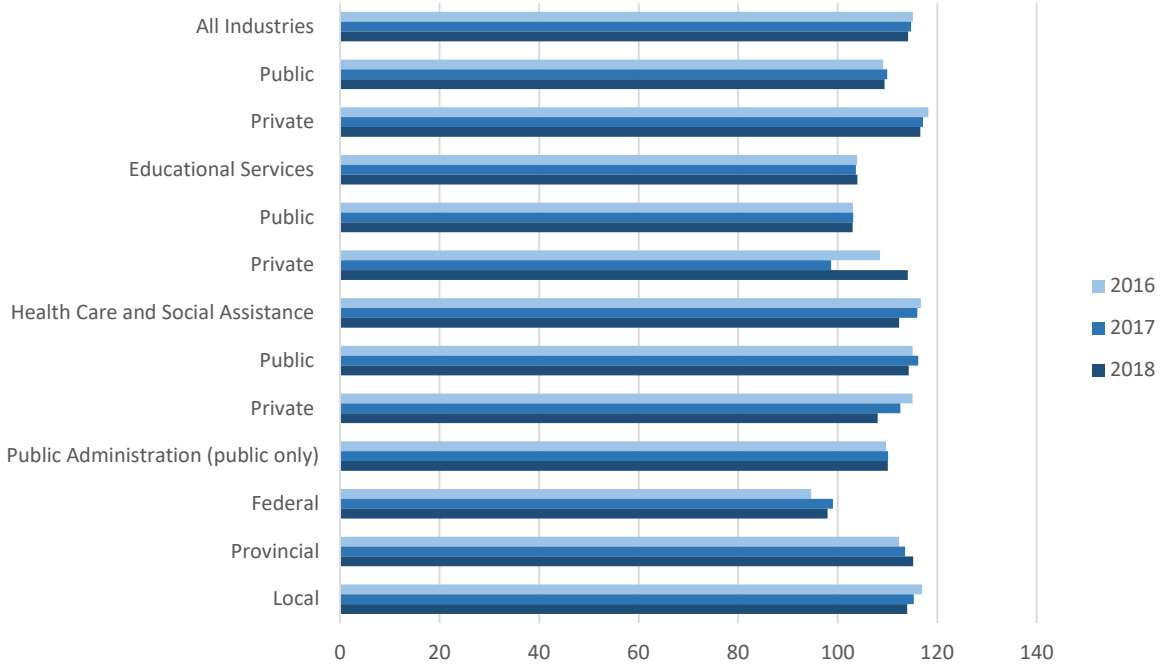
Source: Author's calculations from Statistics Canada Table 14-10-0204-01.

Hourly Earnings by Industry

Above we have shown the results using real weekly earnings from the SEPH. As argued at the beginning of the report, these numbers may be biased since they count payrolls and not individuals, and the rate of multiple job holding differs by industry. In addition, the SEPH data do not take into consideration the number of hours worked per week, which could also bias the comparisons. Thus, we calculate the real hourly wage using the nominal LFS wage data adjusted for differences in the CPI by jurisdiction. This is our preferred measure of compensation, although both real earnings and real wages are complementary and give similar results. Because of this we limit the analysis below to the 2016–2018 period so that we are better able to see the evolution of relative real wages over the short-term.

Figures 32 to 35 show how real hourly wages in Alberta compare to those in Canada and in the three largest provinces, first overall relative private and public sector wages, and then for each of the two industries where there are both public and private employees, from 2016 through 2018, a period chosen to coincide with the 2016 data in MacKinnon and Mintz (2017) and to update these same data. Within the public administration industry, relative wages are further broken down into subindustries.

Figure 32: Alberta/Canada Real Hourly Wages, Various Industries, 2016–2018



Source: Author's calculations using the 2016-2018 LFS Master Files and PUMF and Statistics Canada Table 18-10-0005-01.

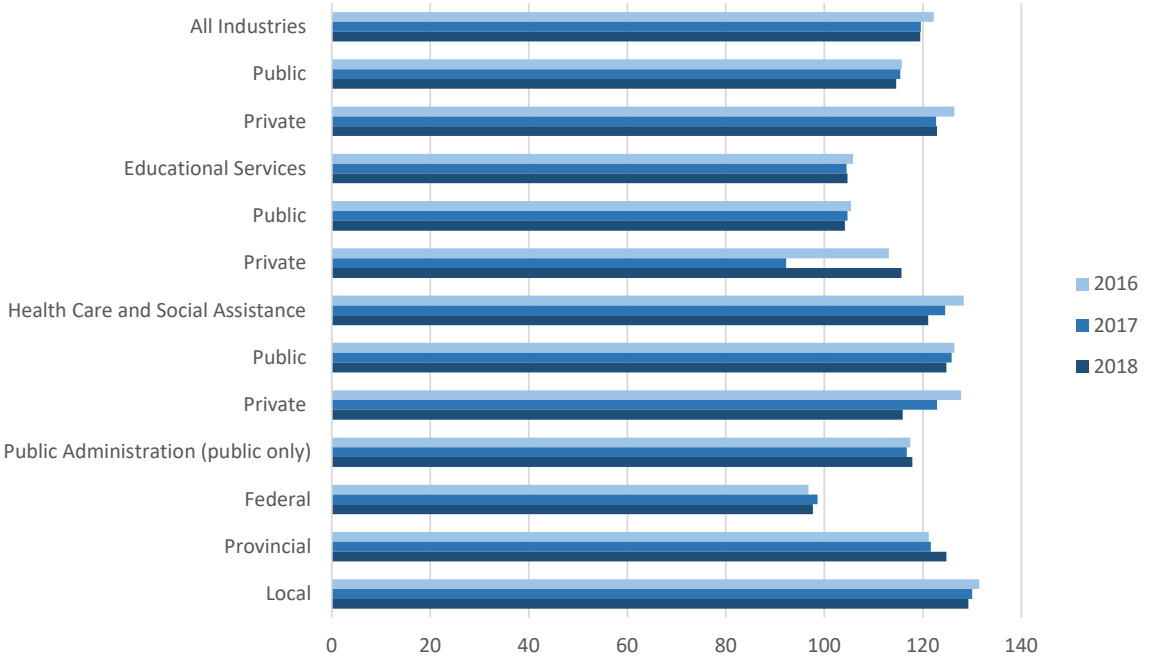
The first outcome of note is that overall real wages in Alberta are higher than the Canadian average (and higher than in any of the provinces), and comparable to the real weekly earnings differentials as presented in Figure 9 on page 22. Overall wages in Alberta are 14–15 percent higher than the average for Canada (Figure 32), 20–22 percent higher relative to Quebec (Figure 33), and ranging from 12–13 percent higher compared to Ontario (Figure 34).

This overall wage advantage is largely due to higher private sector wages where the Alberta advantage is 17–18 percent for private sector employees in Alberta relative to the national average, compared to the public sector wage advantage of 9–10 percent, the exact figures depending on the year.

For educational services, overall wages are 3–4 percent higher in Alberta compared to the country as a whole, but this is partially owing to private employee wages in this industry in Alberta being above this average in both 2016 and 2018. In the health care and social assistance industry, relative overall wages are 12–17 percent higher than the national average, with public employees having a larger premium compared to private employees (except in 2016 when the differential was the same). Those in public administration earn about 10 percent more on average compared to their counterparts nationwide, but this is not uniform across sub-industries with federal administration employees earning 2–5 percent less, and provincial and local administration employees earning 12–17 percent higher hourly wages. Still, these latter two groups have a wage premium that is comparable to the overall premium for the province.

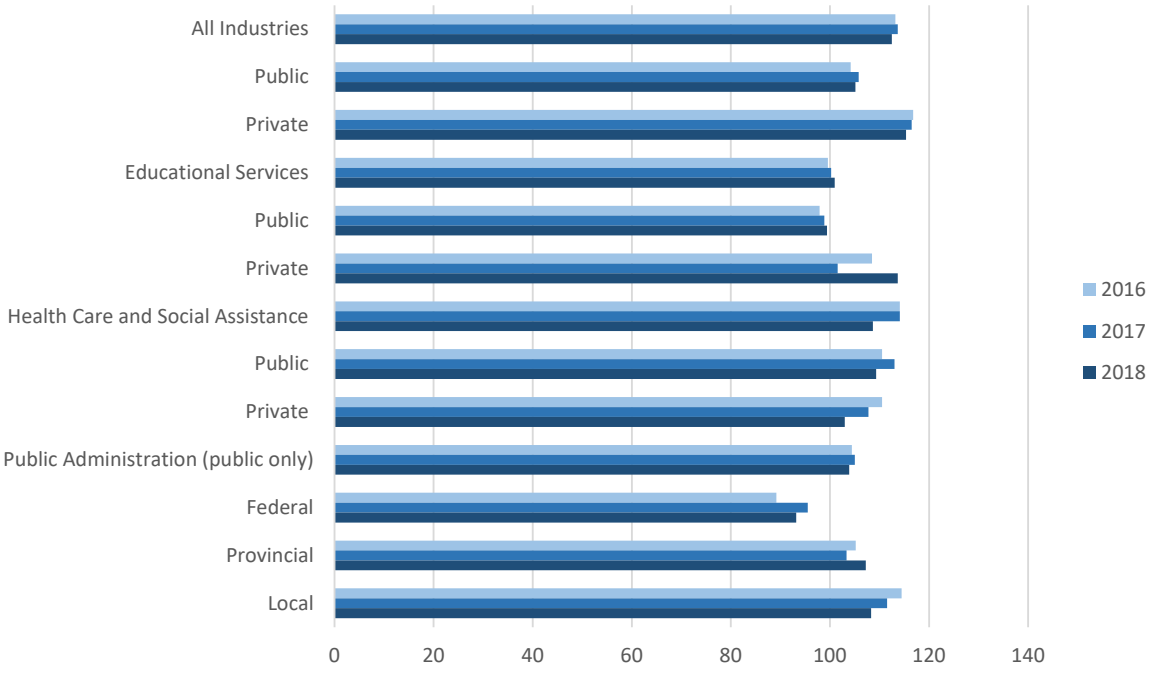
Figures 33 to 35 provide comparable data but compare real hourly wages in Alberta to those in the three largest provinces. Here the general pattern of relative wages mirrors what is happening at the national level. Relative to Quebec—a low wage province—these hourly wage differentials are somewhat higher. But compared to Ontario—a province with higher wages—these relative differences are smaller.

Figure 33: Alberta/Quebec Real Hourly Wages, Various Industries, 2016–2018



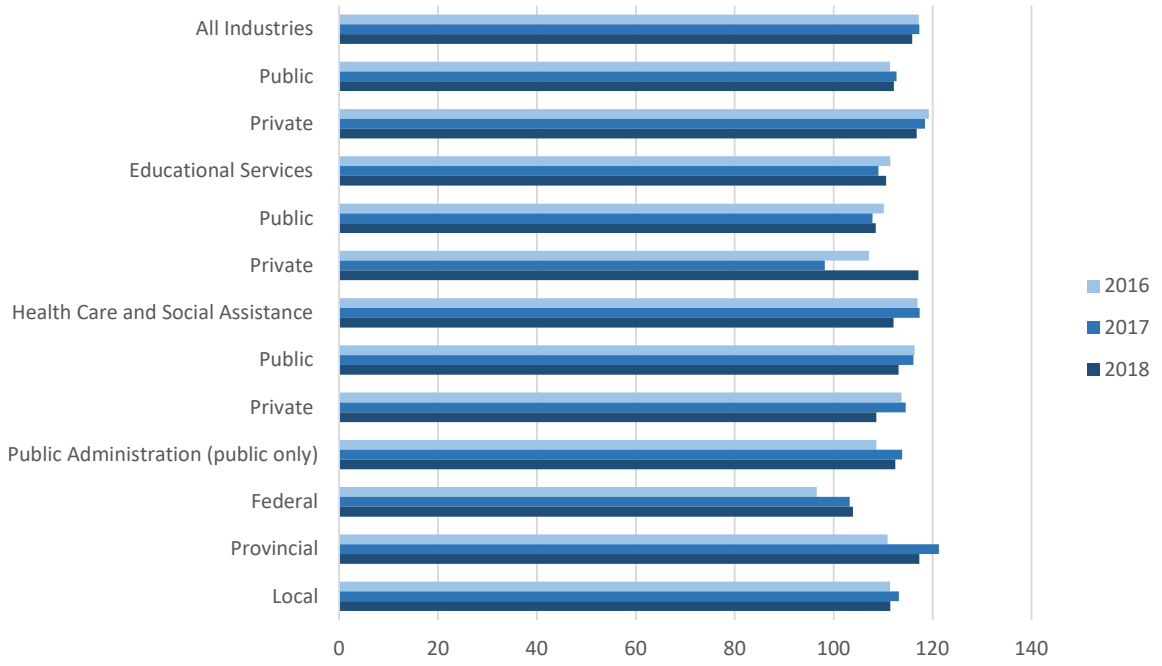
Source: Author's calculations using the 2016-2018 LFS Master Files and PUMF and Statistics Canada Table 18-10-0005-01.

Figure 34: Alberta/Ontario Real Hourly Wages, Various Industries, 2016–2018



Source: Author's calculations using the 2016-2018 LFS Master Files and PUMF and Statistics Canada Table 18-10-0005-01.

Figure 35: Alberta/British Columbia Real Hourly Wages, Various Industries, 2016–2018



Source: Author's calculations using the 2016-2018 LFS Master Files and PUMF and Statistics Canada Table 18-10-0005-01.

It is obvious, but important to note, that real wage differences are not uniform by industry. Nor are they the same for private and public employees within each industry, or for different levels of government within the public administration industry. This is important for two reasons. First, any adjustments to compensation must be targeted appropriately and not be uniformly applied. Second, the Alberta government cannot have any direct influence on setting wages in many cases. For example, local government administration employee wages and private employee wages in health care and social assistance are outside the purview of the Alberta government.

Conclusions

The purpose of this research has been to address the size of the public sector in Alberta relative to Canada and its three largest provinces, and to compare public sector earnings/wages between and within each jurisdiction. We use two complementary data sources from Statistics Canada: the Survey of Employment, Payrolls and Hours (SEPH) and the Labour Force Survey (LFS), and look at trends over time to ensure that our results are robust and not dependent on the year chosen from analysis. Both data sets have their strengths and weakness but are complementary and, for our current purposes, give comparable results. We also use real weekly earnings and real

hourly wages since inflation in Alberta has been much higher than in other jurisdictions since at least 2001.

"We conclude that Alberta does not really stand out in any way relative to the other three large provinces, both in terms of the size of its public sector size and its compensation."

We conclude that Alberta does not really stand out in any way relative to the other three large provinces, both in terms of the size of its public sector size and its compensation. If anything, Alberta has tended to have a smaller public sector compared to other jurisdictions using certain measures. Similarly, the compensation to public employees in the province does not stand out in any way, except for the fact that Alberta was and still is a high wage province and public sector wages, at least in part, reflect this. Where Alberta does stand out is that relative to overall earnings within the province, Alberta public sector employees tend to earn relatively less than their counterparts in other jurisdictions, especially when the overall high relative real earnings in the province are considered. These findings stand in contrast to the Blue Ribbon Panel on Alberta's Finances (2019) report which contends that both the size and the compensation of Alberta's public sector are excessive relative to some or all of the province's comparators.

At the beginning of the paper we argued that the recent work by MacKinnon and Mintz (2017) and Palacios, et al. (2018) could arrive at conclusions that are not robust, since each only uses a single year of data—2016 and 2017, respectively—years when the private sector was experiencing earnings decreases and declines in employment which could artificially inflate relatively stable public sector employee numbers and compensation. This indeed appears to be the case. When we update the analysis to include data up to and including 2018 we find that real earnings for public sector employees have been stable between 2014 (the year before the most recent recession) and 2018, but obviously relative wages look high when compared to overall earnings in the province, which fell over the same period. In terms of numbers of public employees, these certainly increased during the Notley government's tenure, partially as a deliberate policy on the part of her government, but also because demand for public services such as education increased. Even with this increase, Alberta does not stand out relative to her peers.

Furthermore, MacKinnon and Mintz (2017) do not agree with the argument that higher compensation in the public sector is due to higher overall compensation in the province's private sector, rather they state that because earnings in the public sector in Alberta are higher than in other jurisdictions, this puts upward pressure on earnings in other jurisdictions. This implies that workers must relocate (or at least be willing to relocate) to another jurisdiction. However, two strands of research suggest that this is not likely what is happening. First, interprovincial migration has generally been on the decline since the 1970s, owing to factors such as problems with credential recognition and differences in occupational regulations between

provinces, an aging population, and increased homeownership (see a brief review in Mueller 2019b). While highly educated workers (such as public employees) are more likely to migrate, it seems more probable that moving across the city to change jobs is more likely than moving to a new province. Clearly the magnitude of interprovincial migration among public employees is an interesting empirical question that is worthy of further investigation.

Second, and related to the first point, is that evidence suggests that the direction of causality is from the resource sector to other sectors of the economy, and that earnings growth in the resource sector in Alberta (and elsewhere) resulted in wage spillovers into other industries (Fortin and Lemieux 2015; Green and Sand 2015; Marchand 2015). Furthermore, high earnings increases tend to be concentrated among those with lower levels of education with lower increases for those possessing a university education (Morissette, et al. 2014). Public employees tend to have much higher rates of university education and their earnings growth was lower over the period we analyze relative to overall earnings growth in Alberta.

We also note that breaking down industries into private and public employees and public administration into its components is important since not all public sector employees are under the control of the provincial government, and relative earnings can and do differ depending on how we define the public sector. Using recent data (2016 to 2018) we find that that both private and public sector real wages in Alberta for public administration, educational services, and health care and social assistance—the three industries that contain the majority of public sector employees generally do not differ from those of the comparator provinces in any uniform manner. Still, knowledge of these differences is important for policy purposes.

Much of the previous research on this topic has used data that are too aggregated, earnings that do not control for the higher inflation rate in Alberta over time, and often used only a limited time frame to compare earnings. By using two complementary data sets that disaggregate the public sector into its components, controlling for the inflation rate, and viewing any earnings differentials over the longer term, this research has overcome many of the limitations of much of the previous research on the topic and provided a more complete, accurate, and balanced view of the size of Alberta's public sector and the earnings of its employees.

Endnotes

1 The majority of this report was written before the Blue Ribbon Panel on Alberta's Finances (2019) report was released publicly.

2 Recent evidence from Marchand (2015), Green and Sand (2015) and Fortin and Lemieux (2015) shows that wage spillovers from Alberta's resource extraction to other sectors of the Alberta economy can be substantial. Morissette, et al. (2014) provide evidence that wage increases in the provinces that have larger resource extraction industries were larger for those with a high school or some postsecondary education than for those with a university education. This has implications for the public sector in Alberta since 45.3 percent of public employees in Alberta over the 2006–2017 period held at least a bachelor's degree, twice the 22.6 percent of private employees who held the same credentials (Mueller 2019a).

3 Neither of these studies differentiates between males and females. In what follows, we will follow suit since we want to compare our results with these studies, and also since identifying employees by gender is not possible in all of the data accessed. The public sector is not only an important employer for females, but also wages in the public sector help to narrow the overall gender wage gap. See Gornick and Jacobs (1998), Fuller (2005) and Mueller (2019c) for more discussion and supporting evidence on this issue.

4 Unfortunately, disaggregating industries in this manner is not possible with the data used here.

5 Author's calculations from Statistics Canada Table 14-10-0081-01. For the 15–19-year-old age group, the population over the 2014–2017 period fell by 2.1 percent, while the number of students increased by 0.9 percent.

6 It should be noted that this $21.6 billion for figure for 2018 does not include physician compensation, which is included in MacKinnon and Mintz's figure of $26.1 billion for 2016. Physicians (and similar occupations) are not paid employees—rather they are self-employed and tend to be paid through their professional corporations—so there are no accurate Statistics Canada data on these earnings and therefore they cannot be analyzed.

7 Author's calculations based on Statistics Canada Table 17-10-0005-01.

8 It is possible to derive weekly earnings from the LFS-PUMF by multiplying hourly earnings by usual hours worked per week. This exercise was performed, and the results show a similar pattern, with relative weekly earning in Alberta somewhat higher than those presented here, the result of Albertans working more hours per week

compared to Canada and the three comparator provinces. Compared to the Canadian average, Albertans work about one hour more per week in our data, with public sector employees in Alberta working about one-half hour per week more than the national average. For private sector employees, Albertans work about 1.1 additional hours per week compared to their counterparts across the country. Employees in each of the three industries in Alberta also work longer weekly hours. Compared to the national average these figures over the 2016–2018 period are 1.36 in educational services, 0.29 in health care and social assistance, and 2.19 in public administration. Comparing all these employee groups in Alberta to all other provinces, Albertans always work longer hours (ranging from 0.17 hours compared Ontario health care and social assistance employees, to 3.06 hours compared to educational services employees in Quebec). All figures are author's calculations using the LFS-PUMF.

9 Author's calculations using the LFS-PUMF.

10 When a variable for weekly earnings was constructed in the LFS (by multiplying usual hours worked per week by hourly earnings) and compared to the data from the SEPH in MacKinnon and Mintz (2017), the former differential was marginally higher than the latter. Not surprisingly given that there are relatively few people with multiple jobs in the sample that would be counted two or more times in the SEPH but only counted once for the main job held in the LFS.

11 Author's calculations from Statistics Canada Table 10-14-0027-01.

12 Author's calculations from Statistics Canada Table 10-14-0027-01.

13 A third way of comparing the relative size of the public sector is to look at only employees, a subcategory of total employment which includes only paid employees and excludes the self-employed and a small number of unpaid family workers. Although not shown here, such an exercise yields the same downward trend as in Figure 4.

14 Private sector employment in Alberta fell from 1,521,100 in 2014 to a low of 1,469,200 in 2017 before climbing to 1,488,400 in 2018. Over this same four-year period, public sector employment increased from 369,600 to 440,700. Author's calculations from Statistics Canada Table 14-10-0027-01.

15 There is a small proportion of public administration employment that is non-public sector in some of the earlier years in these data, but these never exceeds three percent in Canada. More recently, all public administration employment is in the public sector. As such we do not address the trends in public administration here.

16 We use real earnings figures including overtime throughout this section. Nominal wage data in Table 14-10-0204-01 is deflated by the CPI for each of the jurisdiction using data in Table 10-18-0005-01 and adjusting these CPI figures so that 2001 is the base year (i.e., 2001=100). A similar exercise using earnings data without overtime yielded almost identical results.

17 As with the other graphs in this paper, there are no adjustments made for worker attributes and how these may differ between provinces. In essence, we are assuming that these are similar across provinces and sectors so that any differences here are owing to overpayment or underpayment of public sector workers relative to those in the private sector and the other provinces. For a multivariate regression analysis of these wage differentials between sectors and across the provinces see Mueller (2019a).

18 This is an interesting result, and one worthy of further investigation (but outside the scope of the current research). It is worthy to note that, after controlling of variety of characteristics, Mueller (2019a) finds that the relative wages of federal public administration employees in Alberta are less than those in provincial and local public administration, but the differences are not as dramatic as shown when comparing Figures 18 to 20 here. Another reason for these differences is that federal public administration earnings are negotiated nationally and therefore not as likely to be tied to the rapidly rising overall earnings throughout the Alberta economy over much of this period. Provincial and local public administration earnings, by contrast, are more likely to be tied to overall earnings growth in the province.

19 Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

20 Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

21 Author's calculations from Statistics Canada Tables 14-10-0204-01 and 18-10-0005-01.

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