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The Public Services: an important driver of Canada's Economy

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Prejudicial attitudes towards the contribution of government employees persist in Canada. One myth is that the salaries of public employees are unproductive expenditures that hinder economic growth. This idea is based on a view of the economy which posits that only the private sector creates wealth, and that the government then benefits from a portion of the wealth generated to finance its activities. In this view, the work done within hospitals, schools, universities, national parks, or government agencies is not seen as having any economic value and does not affect the growth of the GDP, while the same work in private organizations is believed to create wealth. Wealth is, then, associated not with the work accomplished or its value, but rather by the sector to which it belongs.

Key Points

01 Although the contribution of the public sector to the Canadian economy has decreased over the past 40 years, it remains a key economic player and represents a vector of economic stability and growth.

02 The economic impact of the public sector, in terms of jobs and GDP, is higher than the average of Canadian industries.

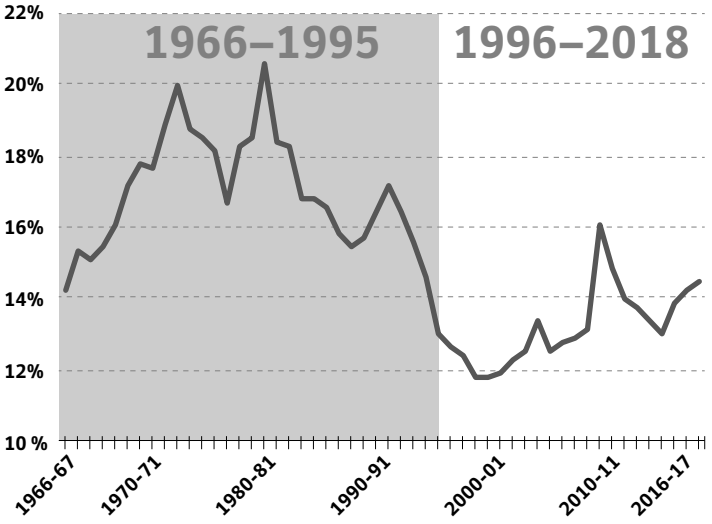
03 The public sector fosters development in regions which have less diversified economies, such as those which depend largely on natural resources.

This idea is, obviously, absurd. It is also contradicted by official economic accounts, which include in the GDP all income earned by individuals, whether they work in the private or in the public sector. Moreover, such a notion relies on another misconception: that the private sector is generally more efficient and productive than the public sector, which cannot help but waste the resources allocated to it, to the detriment of taxpayers. As this socio-economic study shows, this assumption is not reflected in data on the economic impact of the public sector.

Finally, the decision of the federal government to rely on public deficits to finance economic stimulus programs in Canada has largely been depicted in the media as a risky strategy which is not sustainable in the long term.

Graph 1

Spending on federal government programs, as a proportion of the GDP (%), Canada, 1966–2018



SOURCE: Department of Finance Canada, Fiscal Reference Tables 2018, tab 8, https://www.fin.gc.ca/frt-trf/2018/frt-trf-18-eng.asp.

However, as we can see in Graph 1, federal government spending has been at relatively low levels since 1996.

Our research is presented as a counterweight to balance these prejudices which refuse to die. Instead, we show that public sector spending is not a waste of resources. In fact, the opposite is true: public sector spending is a good investment in our economy. It stimulates growth and employment. To demonstrate this, we will apply an analytical framework centred on the concepts of effective demand and the multiplier effect of public spending. We will draw a general overview of the public sector in the Canadian economy by studying its share of the GDP and the job market, as well as its stabilizing effects on the economy across the country. We will also look at the ability of the public sector to foster the economic resilience of regions with low levels of sectoral diversity. We will complete this overview by calculating the multiplying effects of public spending on the GDP and on employment.

The government, through its unique institutional capacities, has the power and the responsibility to create positive feedback loops that foster sustained economic growth, to benefit all citizens. This should lead to a mixed economy in which the public sector will fully assume its social responsibilities by offering numerous quality jobs, thereby fostering the growth of a strong middle class.

1. Reinforcing the public sector

1.1. FOR AN ECONOMY OF FULL EMPLOYMENT

The idea that public spending and investments are necessarily wasteful or an inefficient use of economic resources is generally rooted in orthodox economic theories. According to these theories, a reduction in the production costs of businesses, including wages, is thought to encourage business owners to invest and produce greater wealth, fostering economic growth.

However, a heterodox school of thought challenges this preconceived notion,[a] emphasizing instead the role of global demand as a driving force of the economy. According to these economists, "increased employment does not necessarily lead to a decline in real wages. On the contrary, the rise in real wages leads to an increase in demand for products, and thus an increase in the demand for workers and a reduction in unemployment."[1] Hence, despite the fact that each private enterprise, considered individually, has an immediate interest in reducing its labour costs to increase its profits, this type of strategy becomes irrational and counterproductive if it is applied to all businesses, to the extent that the global effective demand becomes lower, and the sales of each one, in turn, are reduced.

In this context, the government has the role of ensuring that households can contribute to the global demand. The government does so through three different methods. First, by guaranteeing a high minimum wage, to raise the wage structure as a whole. Second, by offering above average wages in the public sector. The higher salaries in the public sector will stimulate the economy to the point that it can become self-sustaining through an increase in the government's tax base, generated by economic growth. Finally, the government can foster the vitality of demand by adopting pro-union laws, to return to a tripartite structure which guarantees the presence of powerful unions in the economic landscape, able to counterbalance the power of corporations.

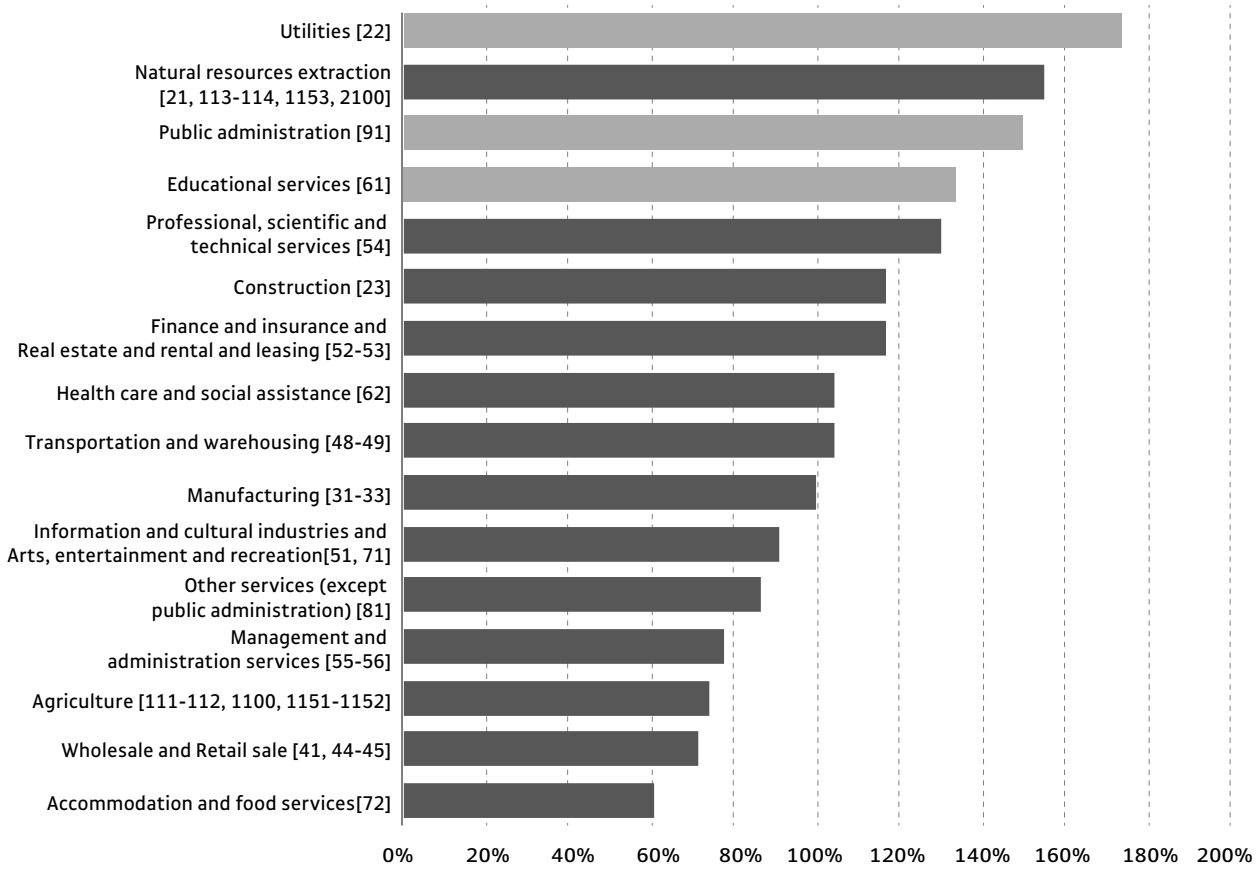
1.2. THE PUBLIC SECTOR AND THE MIDDLE CLASS

These government measures to support the economy were very popular in most wealthy nations over the thirty years that followed World War II. In the next four decades, however, we have witnessed a gradual transformation of

a Among the most highly ranked proponents of this thinking are post-Keynesian economists such as Marc Lavoie.

Graph 2

Relationship between the median revenue in each industry and the median revenue for all industries (%), Canada, 2018



SOURCE: Statistics Canada, Labour Force Survey, 2018, Table 14-10-0064-01.

the government's economic interventionism. Today, governments continue to have an important role in the economy, but their policies and actions follow a different logic. The stimulation of supply and control of inflation have replaced the maintenance of global demand and full employment as government priorities. Fiscal structures have shifted in favour of corporations and the richest individuals, and free trade has become more prevalent and has torn the industrial fabric of most wealthy nations. The neoliberal era in which we are now living jeopardizes the progress made in the previous period.

One of the accomplishments of the postwar period was the creation of a strong middle class. Research has recognized the fact that middle classes play a leading role in what is called "developed" societies. The OECD reminds us that:

> the presence of a strong and prosperous middle class supports healthy economies and societies. Through their actions and activities, they improve not only their own position, but also that of others. The investment of the middle class in education, health, and housing, their support for good quality public services, their intolerance of corruption, and their trust in others and in democratic institutions, are the very foundations of inclusive growth.[2]

According to the OECD, its member countries have experienced a regression of the demographic and economic weight of their middle classes in the past thirty years. The middle class is under pressure everywhere due to excessive household debt, linked, in part, to the fact that the cost of living has been rising faster than wages. For instance, the average debt of Canadian households has risen from 85% of disposable income in 1990, to 175% in 2018.[3]

Graph 2 reveals that jobs in industries associated with the public sector[a] in Canada pay salaries that make it

a It should be noted that public jobs are found in all the fields mentioned in this graph. However, only the categories of "Public Administration"

possible for workers to join the ranks of the middle class, defined by the OECD as people who earn between 75% and 200% of the median wage. Thus, jobs in the sectors of "Educational Services" (133%), "Public Administration" (149%), and "Utilities"[a] (173%) allow employees to earn higher wages than the median for the economy. This situation can be explained by various factors, including the fact that jobs in the public sector require, on average, more years of education than those in the private sector. Jobs in the public sector contribute to pulling the overall economy upwards.

1.3. THE MULTIPLIER EFFECT OF GOVERNMENT SPENDING ON THE GDP

Until 2010, the International Monetary Fund (IMF) stated that for each dollar of budget cuts made by a government, 50 cents should be deducted from annual GDP forecasts. This statement was intended to illustrate the negative impact of public spending for the economy. The IMF promoted, at the time, "expansionary austerity."[4]

The idea that capital spent by the government *depresses* the economy is not as popular today. Even the IMF changed its position on this matter and apologized for its statements in 2012, admitting that the structural adjustment programs (SAPs) imposed on countries receiving IMF aid in the 1980s and 1990s had been one of the causes of persistent recession in economies affected by an economic crisis. The IMF knew enough to admit its errors and integrate new data into its analyses. The IMF adopted a new formula that changed the rate of the public sector's multiplier effect from 0.5 to a range between 0.9 and 1.7, depending on the variables at play.[5,6]

For Québec economist Pierre Fortin, it was reasonable to consider, during the post-crisis period in the United States starting in 2008, that each additional dollar of public spending would increase the GDP by $1.50.[7] He deplored the fact that, in developed countries, budget policies had abandoned their support for the economic growth as they opted to make austerity measures a priority, in order to rebalance public finances as rapidly as possible. This strategy was ill-advised and had harmful effects on economic recovery in the countries concerned.

1.4. THE ECONOMIC ROLE OF THE GOVERNMENT IN REGIONAL DEVELOPMENT AND RESILIENCE

Many people have also examined the response to economic crises in order to better understand the factors explaining why certain regions fared better than others in their recovery. Most authors emphasized the importance of mixed economies, which facilitated the resilience of certain regions through economic crises. The public sector is an integral part of this mixed economy.

As an example, in Great Britain, Giulia Faggio[8] analyzed the economic effects of a program to shift public sector jobs in London to other regions in 2004. By the end of the program, more than 25,000 public jobs were relocated.[9] According to Faggio, this policy had a positive effect on local and regional consumer activity, and thus on the private sector that offered services and products nearby. However, it was associated with a slight decrease in jobs in the manufacturing sector.[10] The relocation of public jobs altered the industrial fabric of the regions and strengthened the sectors that had a higher capacity for recovery.[11] While, shifting public jobs cannot be the only strategy used to strengthen regional development, it is nevertheless an effective policy for bolstering the local economy.

In 2006, Philippe Le Goff, of the Economics Division of the Parliamentary Information and Research Service of Canada, also surveyed the advantages and disadvantages of relocating federal public servants to regions outside the federal capital.[12]

Among the positive points of this type of strategy, Le Goff noted the costs of office space, which were generally much lower outside the capital, and a better work-life balance for employees of the public service who were transferred outside Ottawa,[13] as well as the stimulation of certain industrial clusters connected with work in the public service in the chosen regions. Le Goff also mentions that redeployment of human resources to regions that are more economically disadvantaged could offer better employment stability in local communities by reducing the share of the job market exposed to the competition of international markets or fluctuations in the price of natural resources. These public sector jobs are also accompanied by a mass of wages that can represent an obvious stimulus for economic activity in the target region, where they can help maximize the use of local infrastructure and increase the local pool of professional expertise.[14]

(100%), "Educational Services" (85%), and "Utilities" (85%) include a high proportion of employees from the public sector. As only 46% of jobs in the category "Health Care and Social Services" are public sector jobs, we decided not to include this field in the public sector.

a The "Utilities" industry, according to the North American Industry Classification System (NAICS), includes energy transport infrastructure, water treatment systems and sewers.

1.5. ECONOMIC RESILIENCE THROUGH SECTORAL DIVERSITY

Economic resilience is a concept that refers to the capacity of the economy of a region to resist crises and disturbances which affect it, and to readjust in order to escape unharmed, or even in a better position than before the crisis.[15] A region which is economically resilient is, therefore, able to adapt to major fluctuations in certain less stable industries, such as manufacturing or natural resources. In the opposite situation, a decrease in living standards resulting from the loss of high-quality jobs may pull a region into a slump which hampers its growth, temporarily or permanently, and may lead to a heavy outflow of the population, aggravating the situation.

All things being equal otherwise, a diversified economic structure generally offers better regional resilience than a structure concentrated in a small number of industries. Diversification obviously allows a distribution of risks. It also encourages innovation and makes it easier to reorient predominant sectors in the regions affected by a crisis. In general, manufacturing and construction are industries that are more vulnerable to cyclical disturbances than others in the private sector, and the private sector is affected more deeply than the public sector.[16]

To summarize: the public sector is the most stable sector in periods of economic turbulence. It may even grow in a period of crisis, as it administers programs intended to mitigate the effects of a recession (employment insurance, for example). The public sector thus acts as an "automatic stabilizer." During a crisis, a region which combines several employment and economic sectors, including a well-established public sector, will be more apt to retain a critical mass of jobs. The public sector is a tool that governments can use to achieve full employment, by providing high-quality jobs that have a beneficial effect on economic growth in general and on the resilience of regions that are less diversified in particular.

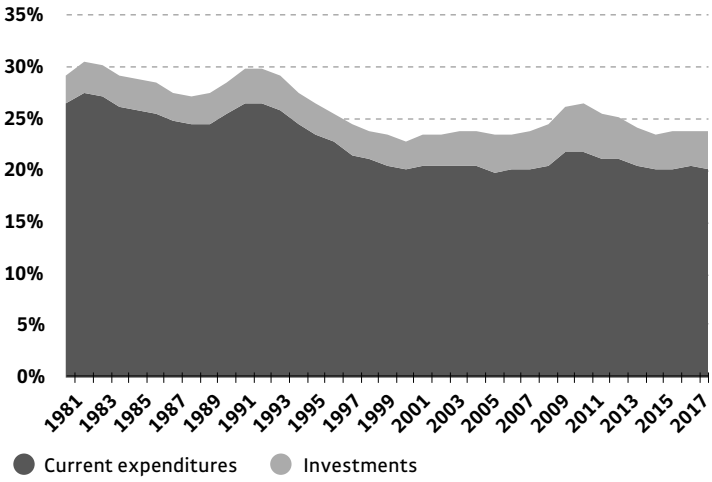
2. The scale of the public sector in the Canadian economy

2.1. THE SHARE OF PUBLIC SECTOR SPENDING IN THE CANADIAN GDP

Now that we have set out different theories related to the benefits of public sector spending, we will look at the scale of this spending in the case of the Canadian economy. The first indicator to study is the percentage of the Canadian GDP that can be attributed to public sector spending. This percentage is calculated by adding the current expenditures of goods and services by the public sector, which include the salaries of employees of the government, to investment expenditures, which include all property and infrastructure spending.

Graph 3

Current expenditures and investments made by the public sector in proportion to the GDP (%), 1981–2017



SOURCE: Statistics Canada, Table 36-10-0369-01.

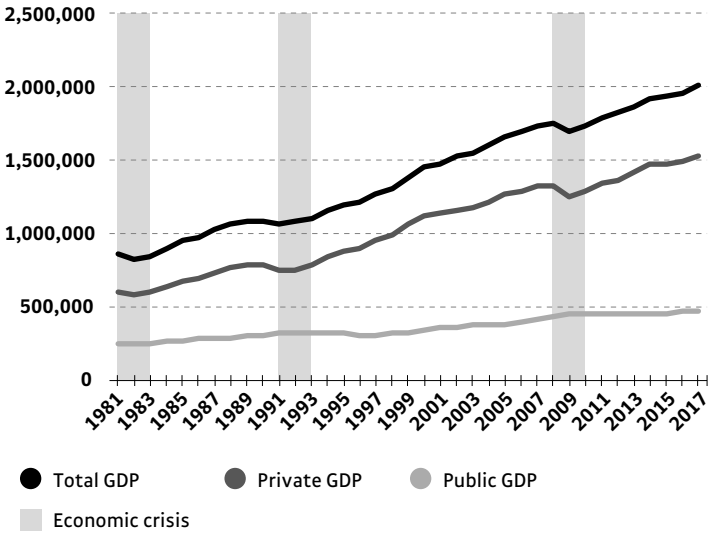
Graph 3 traces the evolution of the proportion of the Canadian GDP represented by public sector spending in Canada during the 1981–2017 period. It shows that spending in this sector underwent a substantial reduction, as it ranged between 28% and 30% from 1982 to 1992, and between 23% and 27% since then. This decrease can be explained by a large drop in the proportion of current expenditures by the public sector during these periods (from 28% to 22% of the GDP), in contrast to investment expenditures, which have remained stable.[a] The peaks in these two periods can be attributed to various economic crises which shook the private sector, increasing the overall proportion of public sector contributions to the economy. The reduction of the economic weight of the public sector during the 1990s has been widely documented and corresponds to the adoption, by different levels of the government, to neoliberal austerity measures.[17]

In Graph 4, the stability of expenditures in the public sector is easy to see. This stability can be explained by the fact that government spending follows a different line or reasoning than that which governs the decisions of

a Because the two gray zones of the graph are cumulative, the fact that the two curves are parallel between 1992 and 2000 can be explained by the stability of the upper zone.

Graph 4

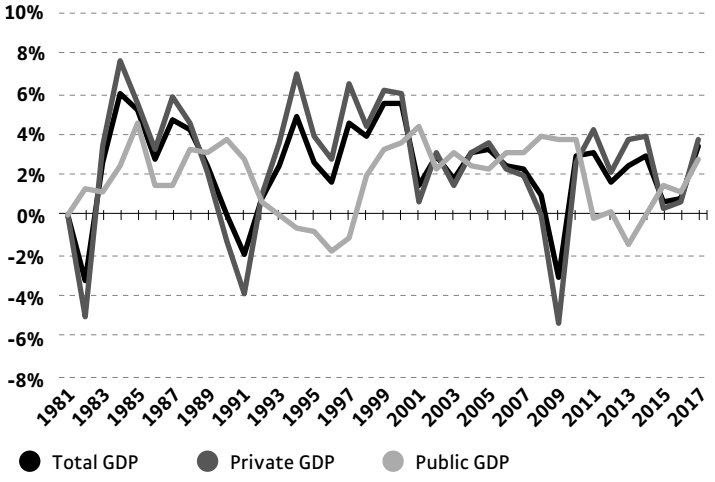
GDP of the public sector, the private sector, and the total GDP (millions, constant dollars, 2012), Canada, 1981–2017



SOURCE: Statistics Canada, Table 36-10-0369-01.

Graph 5

Annual variation in the GDP in the public sector, the private sector, and total GDP (%), Canada, 1981–2017



SOURCE: Statistics Canada, Table 36-10-0369-01.

economic actors on the market. Whether the private sector rose or fell precipitously, the stability of the public sector allowed the economy to retain a general stability.

In Graph 5, the fluctuations in a period of economic crisis are thus more important for the curve of the GDP in the private sector than for that of the overall GDP, which is stabilized slightly as a result of the compensatory effect of the public sector GDP. We can also see that the path public sector spending follows is generally countercyclical to that of the private sector, and that government spending has a compensatory effect. The periods of economic recession can be observed when the variation in the GDP falls below the bar of 0%. This graph allows us to see that during periods of recession, a growth of 2% to 4% in the GDP in the public sector allowed it to compensate, in part, for the slowdown in the private sector. However, we can also see that on two occasions (1994–1997 and 2011–2014), following an economic recovery – which was facilitated by public sector spending – the different levels of governments applied austerity measures that slowed down economic growth. In the end, the public sector has the capacity to act as a factor that contributes to stability and recovery, but this role was not utilized at its full potential in recent decades.

2.2. PUBLIC SECTOR JOBS

2.2.1. THE EVOLUTION OF THE SHARE OF PUBLIC SECTOR JOBS IN THE CANADIAN ECONOMY

In Graph 6, we can see the evolution of the proportion of jobs in the public sector in the total number of jobs in Canada from 1976 to 2017. It is no surprise that the curve follows that of public sector spending quite closely, since the majority of spending in the sector is allocated to the wages of employees at the different levels of the government. The rate of employment in the public sector has stood between 19% and 20% for approximately twenty years, after having hovered around 2 to 4 percentage points higher than this rate for the twenty previous years.[a]

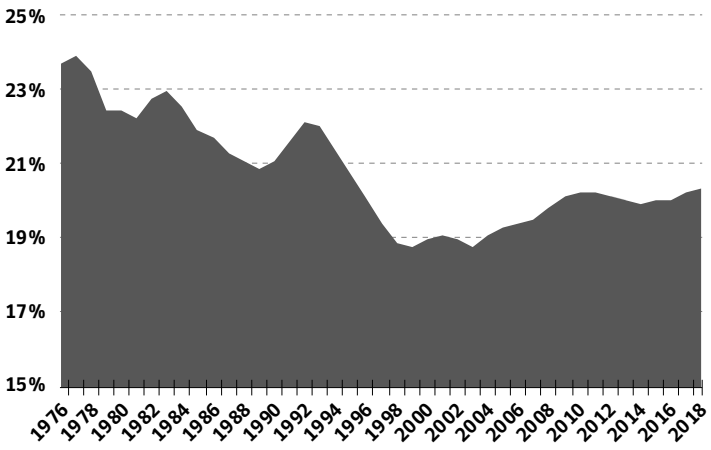
As we can see in Graph 7, employment in Canada's private sector during the 1977–2018 period underwent more significant variations than in the public sector. We can easily see the effects of the three economic crises during the period. Note that the increased spending in the public sector during crisis periods observed in Graph 5 did not result in phases of increased hiring in the public sector, because most of the extra expenditures were for transfer payments related to automatic stabilizers, as well as infrastructure expenses.

We can also see in Graph 7 that, between 1977 and 1999, the annual variations in employment in the two sectors move in opposite directions: when the number of jobs in the private sector drops, the number in the public sectors usually compensates, at least in part, for this variation by rising or at least remaining stagnant. The second period

a Please note here that the percentages given here are for the salaried employees in the public sector only; they do not include independent or self-employed workers who are paid through public funds, such as physicians.

Graph 6

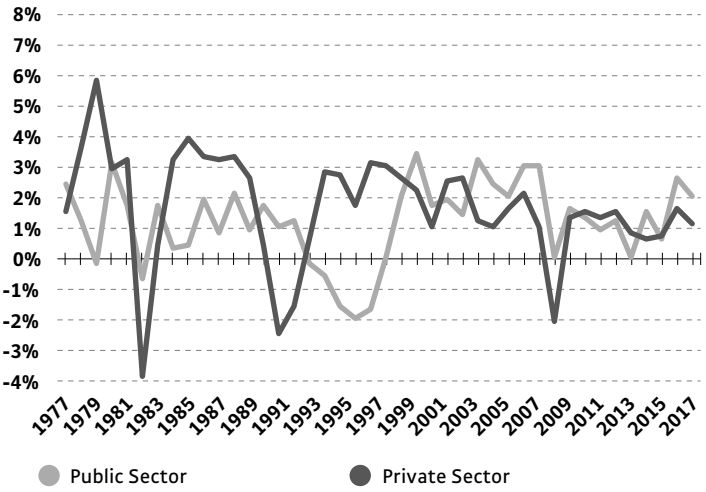
Jobs in the public sector as a percentage of total jobs (%), Canada, 1976–2018



SOURCE: Statistics Canada, Table 14-10-0027-01.

Graph 7

Annual variation of public and private sector employment (%), Canada, 1977–2018



SOURCE: Statistics Canada, Table 14-10-0027-01.

shows a different trend, however, as the public and private sectors experience similar patterns of employment rates. Since the public sector maintained a relatively high level of hiring during the 2000–2008 period (2.5%, on average), it slowed down considerably after the 2008 crisis (1.2%, on average). In other words, the various levels of government did not make use of the important leverage of public employment, which could have been valuable as a driver of economic recovery.

2.2.2. THE EVOLUTION OF DIFFERENT ELEMENTS OF THE PUBLIC SECTOR

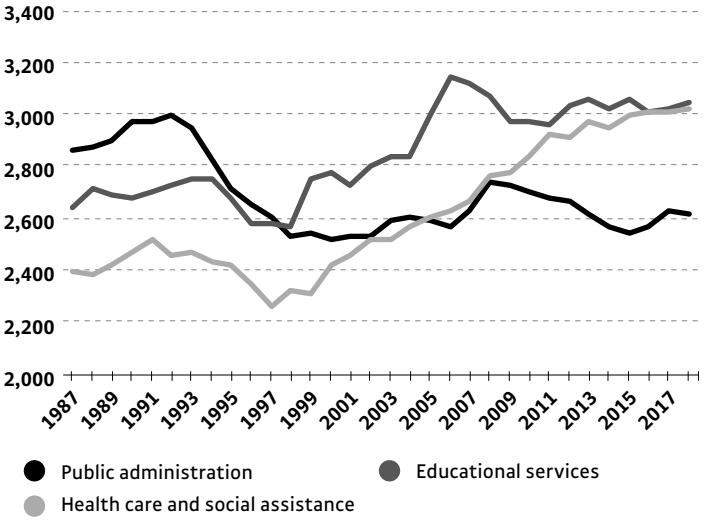
In this section, we will examine the public sector in detail in order to apply our analysis to its different components. Within the public sector in Canada, three sub-sectors stand out by their scale and importance; together, the three represent 85% of jobs in the public sector:

1. public administration, also called "public service," which includes employees in different ministries who may work in offices or in the field (25% of the public sector)
2. health care and social assistance (30% of the public sector)
3. educational services (30% of the public sector)

As shown in Graph 8, the number of people employed in health care and social assistance, as well as educational services, grew considerably as a proportion of the population during the period from 1987 to 2018, while the public service experienced a marked decrease. This

Graph 8

Number of jobs in the three principal sub-sectors of the public sector, per 100,000 inhabitants, Canada, 1987–2018



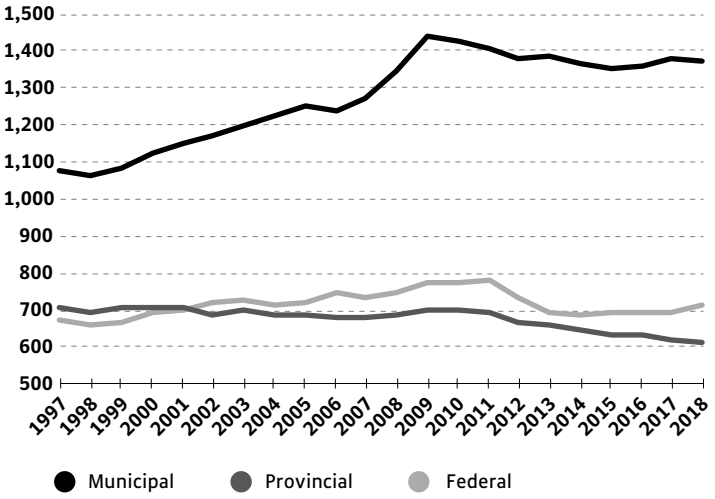
SOURCE: Statistics Canada, Table 14-10-0027-01.

situation leads us to the question of the specific dynamics of Canada's public service.

Graph 9 presents data on the number of jobs in the public service per 100,000 inhabitants, broken down by the level of government, during the last two decades. We can see that municipal governments have experienced a much greater increase of employees than has either the federal or the provincial level. In the findings related to

Graph 9

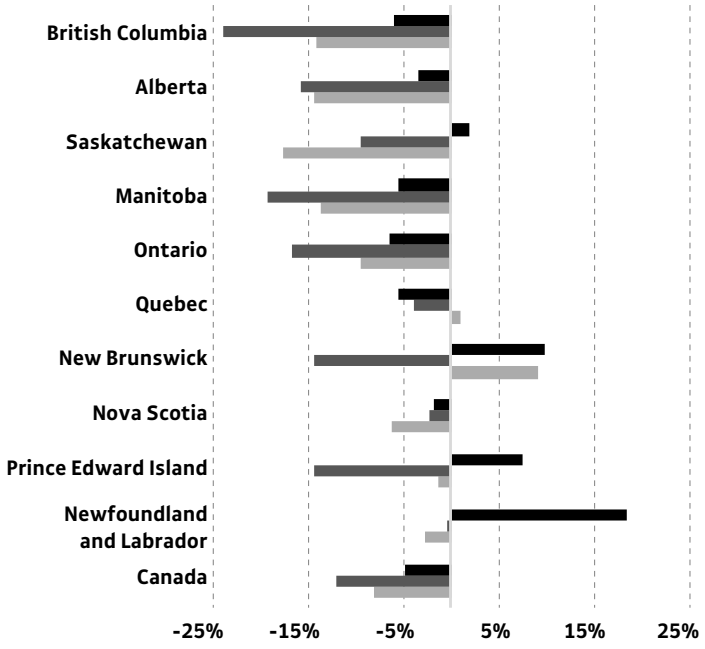
Number of public administration employees at each level of government, per 100,000 inhabitants, Canada, 1997–2018



SOURCE: Statistics Canada, Table 36-10-0489-01.

Graph 10

Evolution of the number of employees in public administration as a proportion of the population, by level of government (%), Canada, 2010–2018



SOURCE: Source: Statistics Canada, Table 36-10-0489-01.

federal employment, we see the effect of the drastic cuts imposed by the Harper government, as nearly 25,000 jobs were eliminated in two years.

Since then, the number of employees in the federal public service has remained stable. The provincial level has experienced the most significant drop in the number of employees, due to various waves of austerity over the last twenty years. As we see in Graph 10, the decrease in the public workforce at each level of government during the 2010–2018 period shows similar trends in all the provinces, with only a few exceptions. Generally, decreases were highest in the provinces in the West, Ontario, and Québec. In the Atlantic provinces, employment in the public service shows mixed results, with several losses but also some gains.

Despite the fact that public sector jobs are a valuable tool in supporting the economy, because of the stability of these jobs and the good wages they pay, the different levels of government did not make sufficient use of this tool in the last two decades. In several cases they even made substantial cuts in the public service.

2.2.3. THE PUBLIC SECTOR AND ACCESS TO EMPLOYMENT

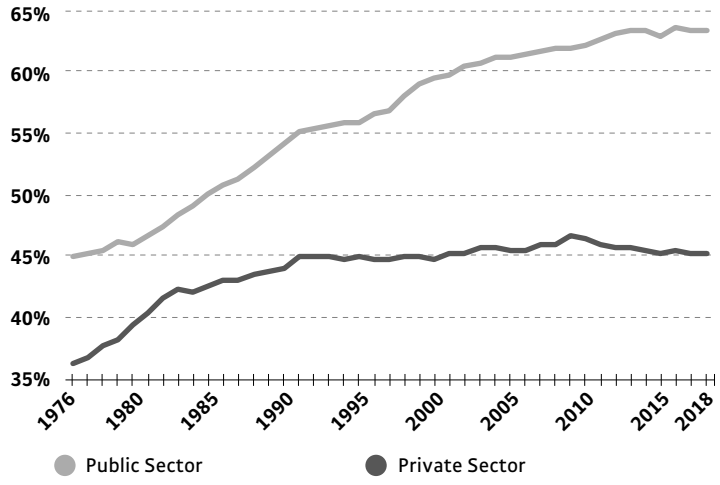
Now that we have seen how the public sector in Canada can act as a factor of economic prosperity, contributing both to the GDP and employment rates, it is important to recognize the role of the public sector as an employer in fostering a better integration of populations that have been historically marginalized within the Canadian labour market, such as women and visible minorities.[a]

In terms of women's access to employment, Graph 11 illustrates the striking disparities which persist between the public and private sectors. The two curves on the graph illustrate the progress made by women in the labour market in each sector. Between 1976 and 2018, the proportion of women in the workforce rose from 36% to 45% in the private sector, and from 45% to 63% in the public sector. The Canadian public sector reached a landmark in 1985 where, for the first time, half of its employees were women. The high representation of women in the public sector helped close the gap between the rate of employment of men compared to women in Canada; the employment rate for women rose from 37% in 1976 to 48% in 2018.

a The term "visible minority" is used in this document only when data from Statistics Canada referring to this category are presented. Statistics Canada states: "The Employment Equity Act defines visible minorities as 'persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in colour'. The visible minority population consists mainly of the following groups: South Asian, Chinese, Black, Filipino, Latin American, Arab, Southeast Asian, West Asian, Korean and Japanese." Statistics Canada [Online]. www23.statcan.gc.ca/imdb/p3Var.pl?Function=DEC&Id=45152.

Graph 11

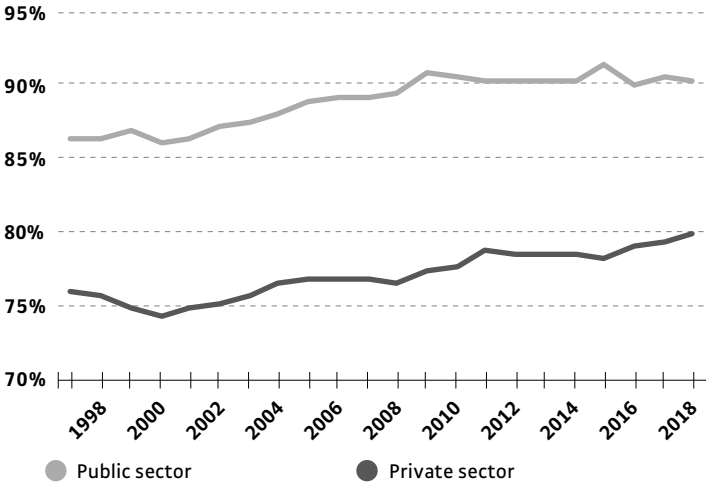
Proportion of women employed in the public and private sectors (%), Canada, 1976–2018



SOURCE: Statistics Canada, Table 14-10-0027-01.

Graph 12

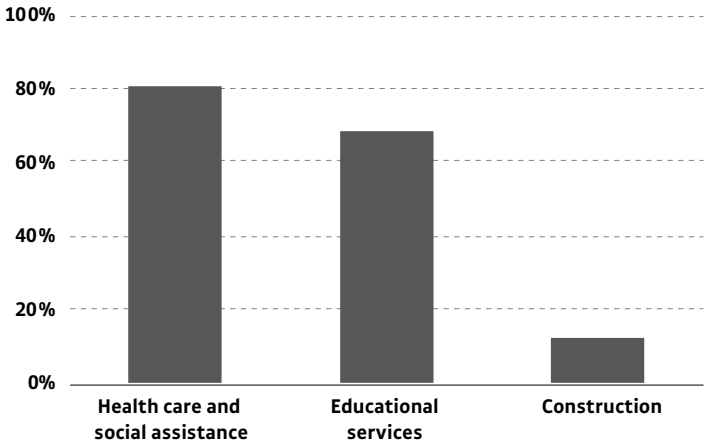
Ratio of the average hourly wage of women to that of men, public and private sectors (%), Canada, 1997–2018



SOURCE: Statistics Canada, Labour Force Survey, 2018, adapted by the Institut de la statistique du Québec (ISQ): Average hourly earnings of employees, findings according to gender for various characteristics of the labour force for the job and of the workplace, Québec, Ontario and Canada.

Graph 13

Proportion of women employed by public systems of education, health care and social assistance, and in the construction industry (private sector) (%), Canada, 2018



SOURCE: Statistics Canada, Table 14-10-0027-01.

Moreover, jobs held by women in the public sector are generally better than private sector jobs in terms of both salaries and working conditions. Graph 12 demonstrates this fact by comparing the gap in the hourly remuneration of Canadian men and women in each sector. It shows that the hourly wages of women working in the public sector rose from 86% to 90% of the hourly wage of men over the last two decades, compared to an increase from 76% to 80% of men's wages in the private sector. Similar progress in women's salaries was made in both sectors, but the gap between the two sectors persisted. Women employed in the public sector experience less wage inequity than women in the private sector.

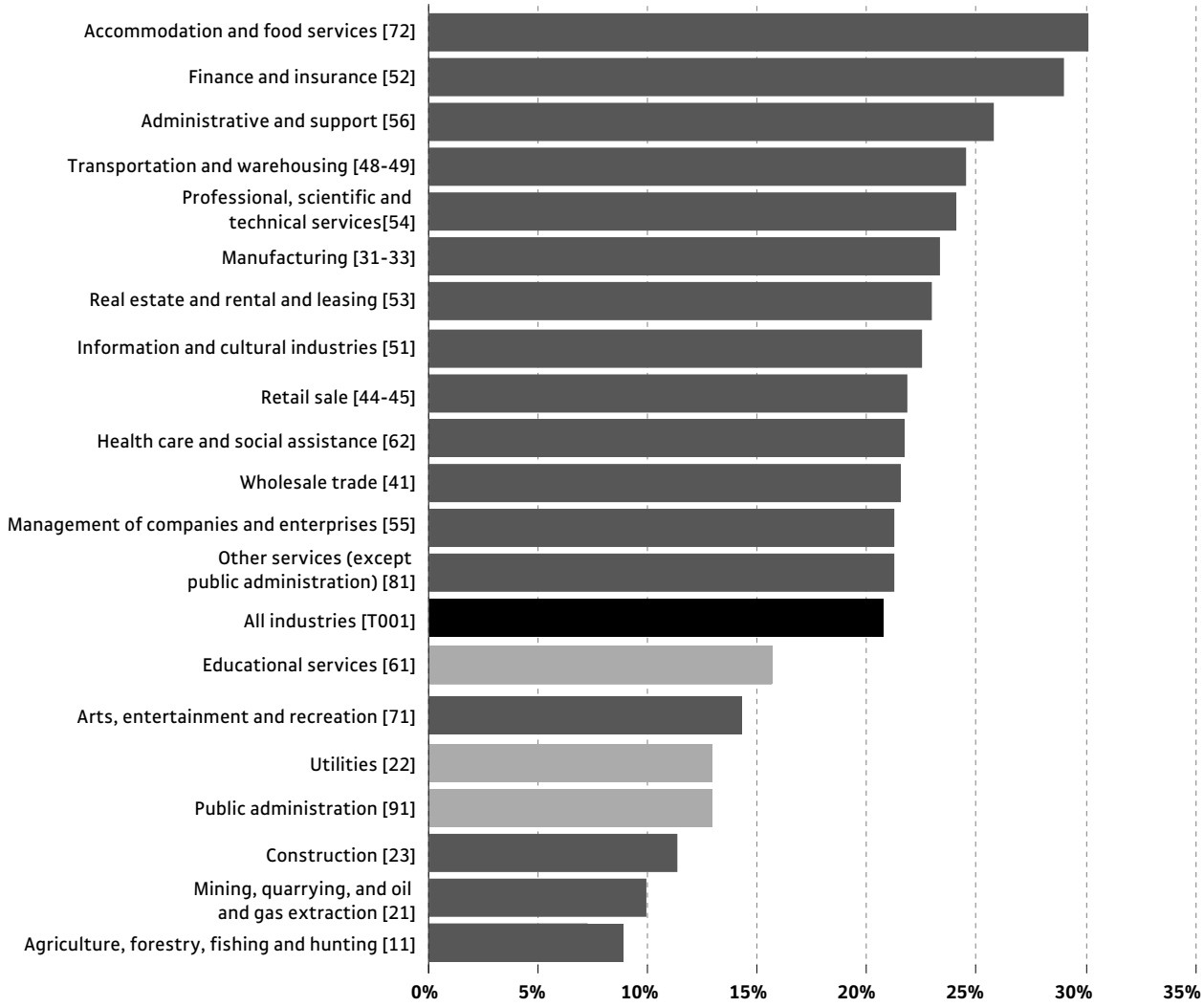
These data on women's employment also lead us to the observation made in a previous study,[18] that cuts in the utilities sector made by the government in periods of austerity and massive investments designed to stimulate the economy after crises usually favour industries in which men make up the majority of employees, and adversely affect the participation of women in the workforce.

Indeed, following the economic crisis in 2008, most of the stimulus spending by the government favoured infrastructure rather than direct services to the population. Graph 13 reveals the political nature of this type of economic decision in terms of the access of women to jobs: while 88% of jobs in the construction sector across Canada are held by men, 81% of public sector jobs in health care and social assistance are held by women, as are 69% of public sector teaching jobs.

Access to employment for people belonging to visible minority groups, however, is less positive. As seen in Graph 14, approximately 21% of the Canadian workforce is made up of people who belong to visible minorities. Industries associated with the public sector have an equal or lower percentage of people from minority groups. It appears that the Canadian public sector could play a greater role in improving the socio-economic conditions of this category

Graph 14

Proportion of people from visible minorities communities by industry (%), Canada, 2015



SOURCE: Statistics Canada – 2016 Canadian Census. Number 98-400-X2016360.

of the population. The median salary of people from visible minorities communities employed by the Canadian public sector is advantageous, compared to employment areas dominated by the private sector, so increasing the proportion of this group of people in the public sector would have a significant impact on their socio-economic conditions.

3. Economic impact of Canadian public sector spending

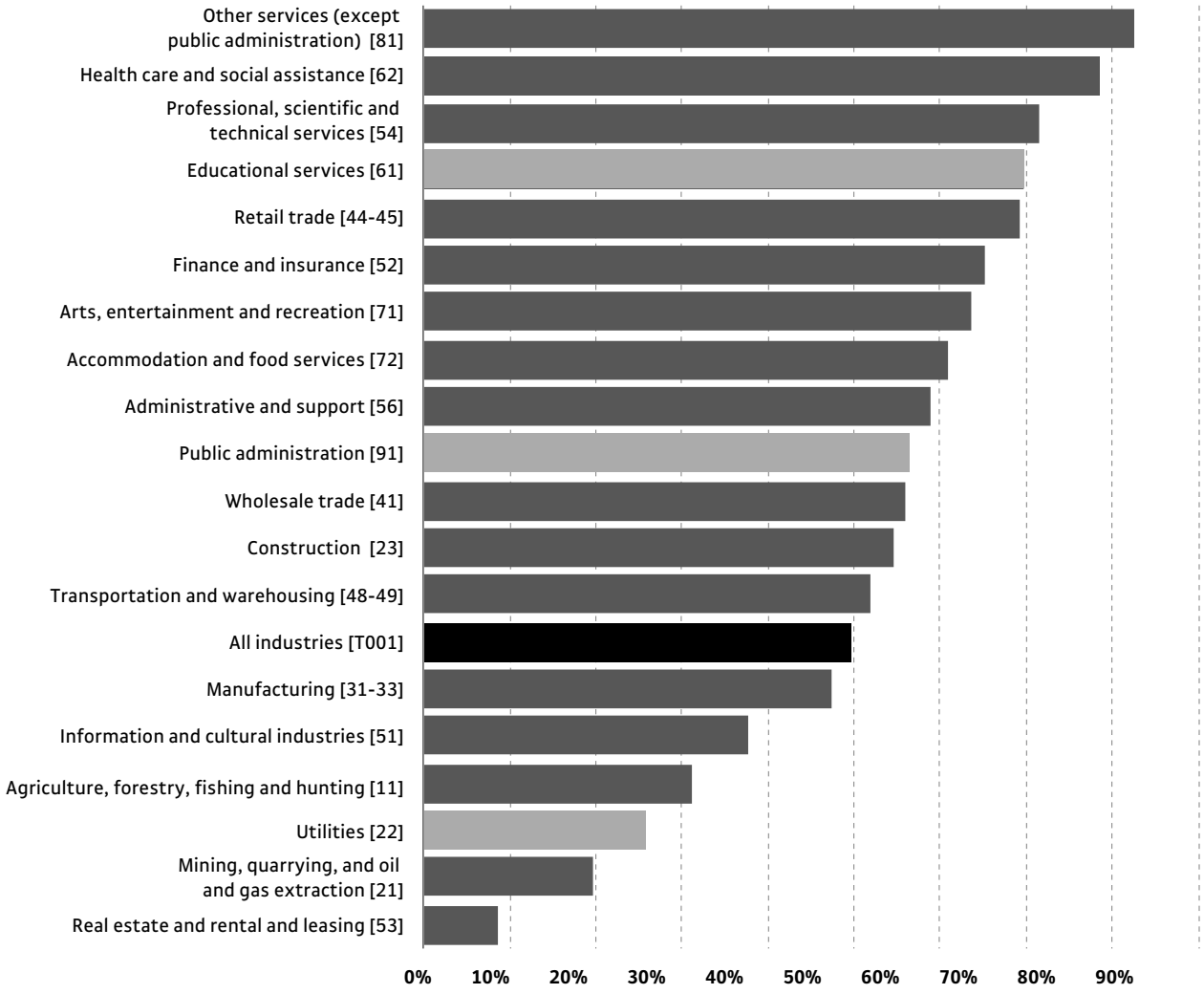
We have seen that jobs in the public sector can provide support for regional and provincial economies. It is possible to estimate the economic contribution of the public sector, and more specifically of the federal public service, by using quantitative indicators.

National input-output multipliers are a method used to calculate the direct, indirect, and induced effects on the economy of an "exogenous shock"[a] within a given industry's production. An effect is considered direct when it affects the initial needs of an industry. For example, in the oil industry, the economic effect of extraction activities is considered a direct effect. The indirect effects are those of related industries. Induced effects measure changes in the production of goods and services in response to

a This refers to the effects of adding a product to a specific sector or withdrawing a product from it.

Graph 15

Portion of the value-added amount spent on wages and benefits by industry sector (%), Canada, 2015



SOURCE: Statistics Canada, Tables 98-400-X2016360 and 36-10-0401-01.

household spending. In the case of the oil industry, the construction of extraction materials or equipment has an indirect effect on the economy, while the purchase of coffee by employees in the mining sector would be considered an induced effect. These input-output multipliers are calculated by Statistics Canada and show the effects of spending on different economic indicators, such as the GDP and the employment rate.[a]

3.1. IMPACT ON THE GDP

It is important to note that the analysis of multiplier effects of spending on the economy relies on the fact that different types of expenditures, in various industries, have distinct types of effects. A dollar spent on wages will not have the same impact as a dollar spent on machinery or paid to stockholders as a profit, for example. This is due to the fact that a dollar paid in wages will generally be spent within the country's economy, while machinery may be imported and profits are most often spent on imported luxuries, placed into savings accounts, or even diverted to tax havens abroad.

a Note that the data used to calculate the input-output multipliers reflect economic activities in 2014.

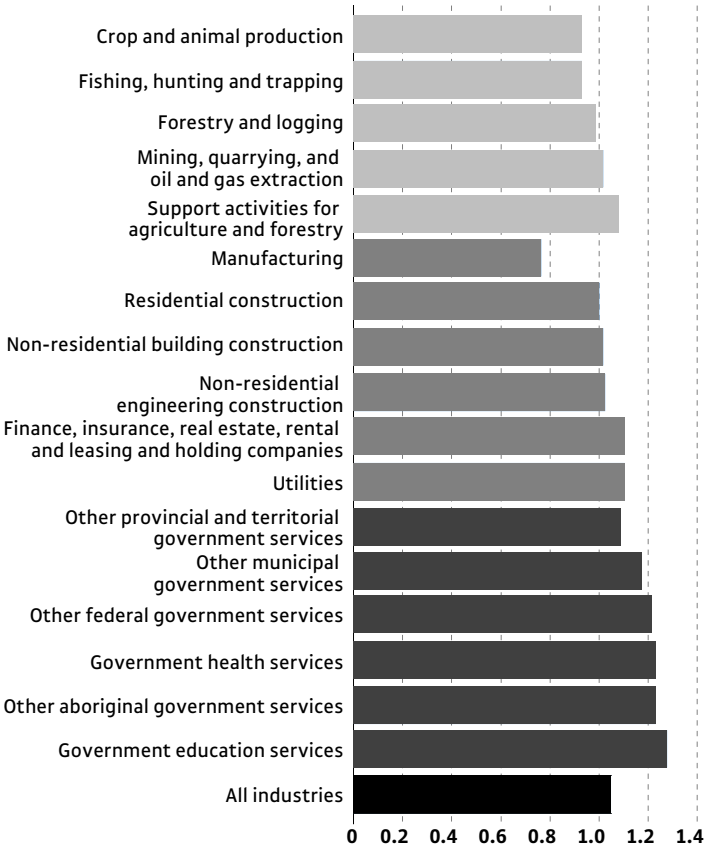
As a general rule, the higher the expenditures made by an industry sector in wages, the greater a chance there is that the wealthiest employees will want to hoard a portion of their salary, which will have a downward impact on the economy. Thus, we can assume that jobs in the middle class have a more favourable impact on the economy.

Graph 15 shows the proportion of spending allocated to wages and benefits in each employment sector in Canada in 2015. With the exception of the utilities sector, which encompasses infrastructures involving a large proportion of fixed capital, the industries mainly associated with the public sector generally spend a higher than average amount on wages and benefits.

Graph 16 shows the multiplier effect of spending in each industry sector and demonstrates that public sector expenditures have a relatively larger effect on the GDP than expenditures in the natural resources sector.[a] In fact, for each dollar the public sector spends, between $1.09 and $1.28 is added to the national economy, depending on the industry. In the natural resources sector, on the other hand, each dollar spent spurs a growth of between $0.93 and $1.08 in the GDP. Looking at the federal public service in isolation, we can see that each dollar raises the GDP by $1.22. This is one of the highest growth ratios; the average across all industries is $1.05.

Graph 16

Direct, indirect, and induced effects of $1 of production on the base GDP, Canada, 2015



SOURCES: Statistics Canada, National input-output multipliers 2015, Summary levels. Industry Accounts Division, calculations by the authors.

3.2. IMPACT ON EMPLOYMENT

As we can see in Graph 17, it is also possible to perform a similar analysis on the number of jobs created by each portion of one million dollars of production by industry. On average, each million invested in production in Canada creates approximately 10.32 jobs. The ratio ranges from 5.60 to 12.84 in the various natural resource industries. In the secondary industries studied, the ratio is between 5.24 and 10.56. In the case of public administration, however, the number ranges from 9.56 to 19.51, depending on the public sector. Taken in isolation, in the sector of the federal public service, over which the federal government exercises the most control, 10.9 jobs are created in Canada per million dollars invested in production. These data indicate that investments in public administration generally create more jobs than those in industries associated with primary and secondary industries. They also contradict the preconceived notion that the public sector is less efficient than the private sector; in fact, the results in the public sector once again exceed the overall Canadian average.

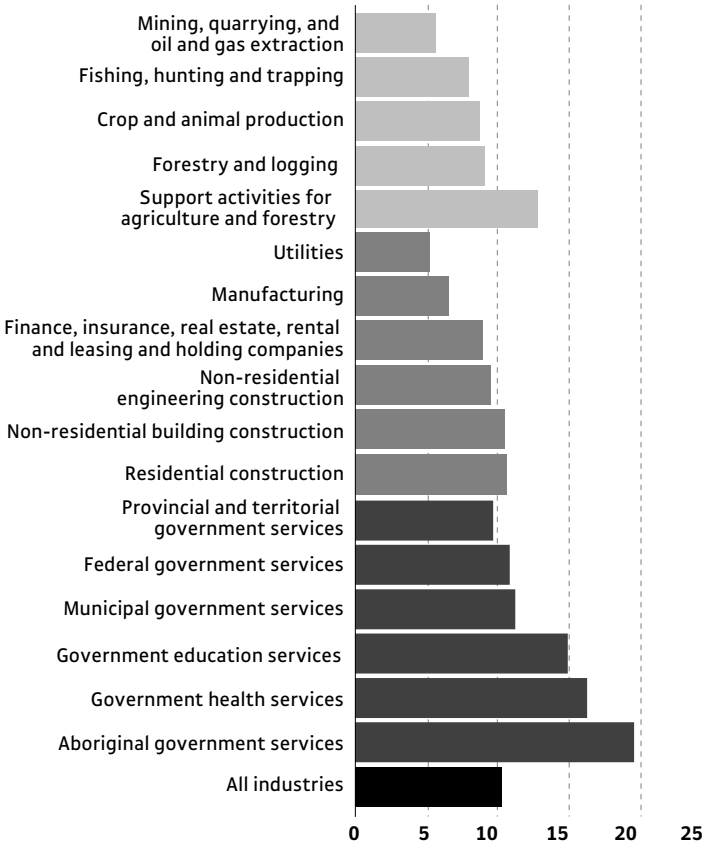
4. An example of reasoned use of public sector jobs in a nation's economic development: the case of Canada's public service

Spending in the public sector has a beneficial effect on the Canadian economy. However, as we saw in Graph 10, the cuts in 2011 were particularly deep in the federal public service. In our opinion, if the Canadian government wanted to remedy the situation and create new jobs in the public service, it should do so in a way that fosters the economic

a To make it easier to read the text and the graphics, we have modified the names of certain industry sectors used by Statistics Canada. Hence, "Other federal government services" (GS911) is designated here as "Federal public service," "Other provincial and territorial government services" (GS912) as "Provincial and territorial public service," "Other Municipal Government Services" (GS913) as "Municipal public service," and "Other Aboriginal Government Services" (GS914) as "Aboriginal public service."

Graph 17

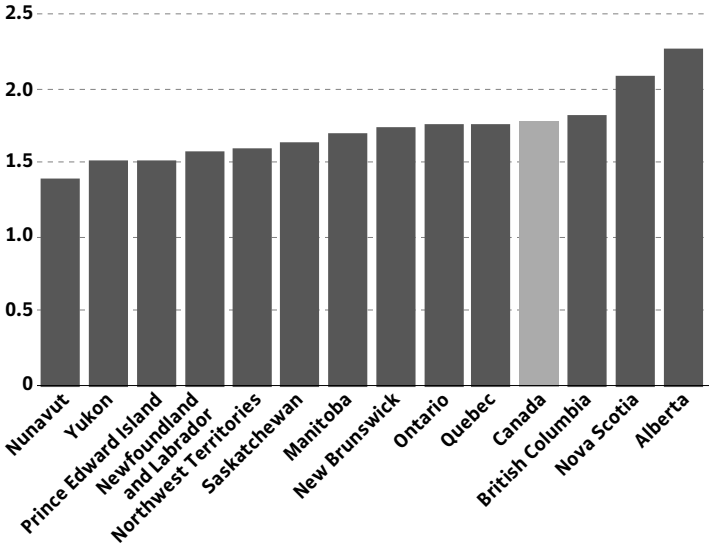
Number of direct, indirect, and induced jobs (FTE) created by each 1M$ invested in production, by industry sector, Canada, 2015



SOURCE: Statistics Canada, National input-output multipliers 2015, Summary levels, Industry Accounts Division, calculations of the authors.

Graph 18

Multiplier effect of each $1M invested in the federal public service on the GDP of provinces and territories



SOURCES: Statistics Canada, Interprovincial Input-Output Model, 2015, Sector GS911A00, Type II Multiplier, 17 June 2019. Calculated by Statistics Canada.

resilience in Canada's provinces and territories.

Graph 17 shows how $1 of spending in the federal public service affects each province and territory. The provinces where the effect is most significant are Alberta and Nova Scotia; here, for every million dollars spent in the public service, there are benefits of $2.26 M and $2.07 M, respectively, while the Canadian average is $1.77 M.

Unsurprisingly, the benefits in terms of job creation follow similar patterns. This is evident in Graph 18, which presents the effect of each additional job in the federal public service on direct, indirect, and induced jobs, by province and territory. The spending associated with a given job will have different consequences for each province or territory. This depends, among other things, on the types of consumer spending in each household, the industrial structure of each province, and the saving strategies of employees.

An analysis of the previous graph shows how, in Canada, each additional full-time equivalent (FTE) job contributes to the creation of 1.91 jobs. The ratio is higher in certain provinces. Once again, the impact of spending in the federal public service is greatest in the provinces of Nova Scotia and Alberta. The ratios for indirect job creation for each new FTE in these provinces are, respectively, 2.46 and 2.04.

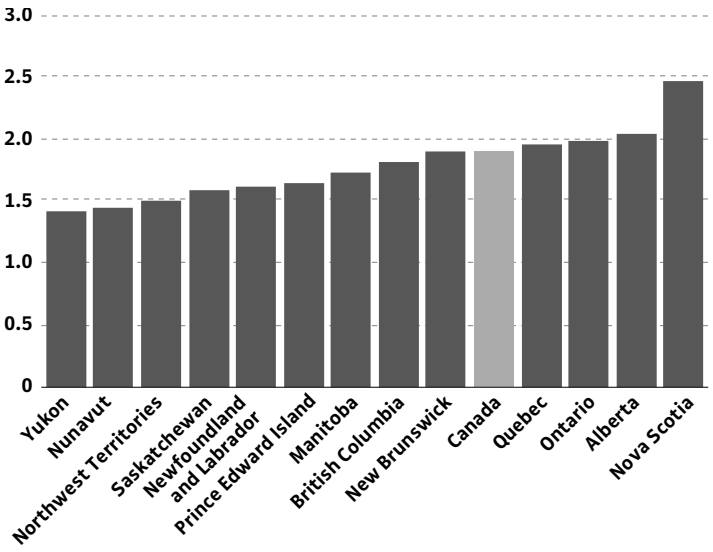
Creating jobs in the public service has a positive effect on Canadian and provincial economies, regardless of the province in question. Therefore, once again, it is false to state that spending in the Canadian public service has no economic impact. In this sense, the Canadian government is able to distribute new public service positions in a strategic manner, according to the needs of different provinces and territories, to support regional economies which are facing particular challenges.

By reviewing Graph 19, which compares the number of FTE jobs per 100,000 inhabitants of each province, we can assume that the Canadian government is already using this tool.

We can see that the proportion of federal public servants is higher in the Atlantic provinces than the Canadian average. These are also the provinces which have the lowest GDP.[19] This suggests that the federal government supports the economies of these provinces, in part, through public service jobs.

Graph 19

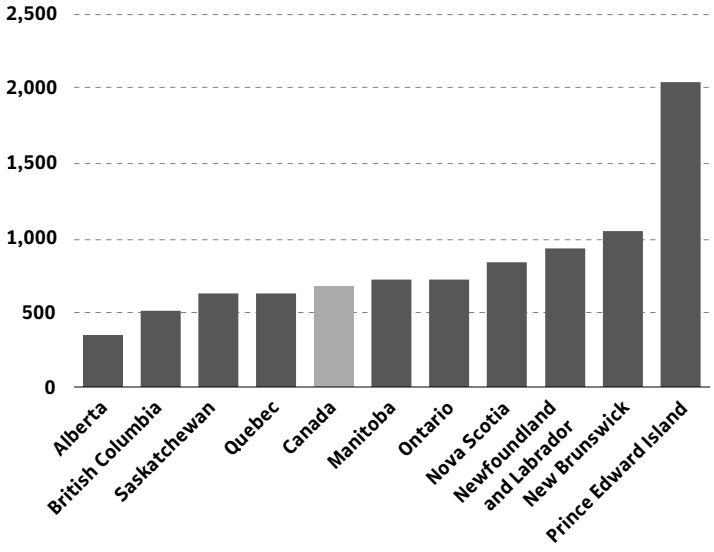
Multiplier effect of 1 job (FTE) in the federal public service, by province or territory



SOURCES: Statistics Canada, Interprovincial Input-Output Model 2015, Sector GS911A00, Type II Multiplier, June 17, 2019, Calculated by Statistics Canada; a "job" refers to a full-time equivalent.

Graph 20

Number of jobs (FTE) in the federal public service per 100,000 residents in Canada, 2015



SOURCES: Statistics Canada, Interprovincial Input-Output Model 2015, Sector GS911A00, Type II Multiplier, June 17, 2019, Statistics Canada, Annual Demographic Estimates: Canada, Provinces and Territories 2018, January 25, 2019, Table 1-1.1; Calculations by the authors.

We also note that the lowest proportion of federal public service jobs is found in Alberta. The economy of this province has little industry diversity; nearly 32% of its GDP comes from the oil industry.[a] The drop in oil prices in 2014 has plunged the province into a deep recession. As climate change pushes us to find strategies to phase out of fossil fuels, diversifying Alberta's economy should become a priority. Hiring public servants in this province would be a good way to do so.

a Approximately 10% of jobs and 30% of the GDP of Alberta originate in the oil industry. Source: Statistics Canada, Table 36-10-0402-01.

Conclusion

The data on expenditures and employment in the Canadian public sector demonstrate that this sector has always had a significant impact on the economy of the country, but that it has played a smaller role in the past twenty years. Much of the decrease can be explained by the relative reduction in public sector jobs, particularly at the federal level.

Thus, the Canadian economy would benefit if the federal government hired more people to administer its programs. Approximately 25,000 public service jobs were cut by the Harper government in 2011 and have still not been recovered. This loss contributes to the fact that the employment rate in the federal public service remains lower than that of the overall Canadian population.

Spending in the public service has a greater impact on employment and on the GDP in provinces which have less diversified economic activity, such as Alberta and Atlantic Canada. From an economic perspective, investing in these provinces would allow them to increase their resilience and could be part of a strategy to transition away from fossil fuels.

In summary, jobs in the public sector are not expenditures which impede economic progress. In reality, the opposite is true: these jobs contribute to the creation of a social context favourable to growth, foster the stability of economic cycles, increase sectoral diversification in non-urban regions, make it possible to maintain a strong middle class, and help reduce the persistent gender wage inequity. They also help people in visible minority groups obtain well-paid jobs, even if this situation requires further efforts to ensure that they are fairly represented in the public service. It is time that our governments consider the numerous benefits of public sector spending and reinvest in this key sector of the economy.

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