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Personnel Expenditure Analysis

Update



OFFICE OF THE PARLIAMENTARY BUDGET OFFICER
BUREAU DU DIRECTEUR PARLEMENTAIRE DU BUDGET

The Parliamentary Budget Officer (PBO) supports Parliament by providing economic and financial analysis for the purposes of raising the quality of parliamentary debate and promoting greater budget transparency and accountability.

This report provides an analysis of the Government's spending on personnel over 2020-21 to 2021-22. The report highlights some key findings that were generated from the Personnel Expenditure Analysis Tool, PBO's interactive online tool.

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Summary

This report provides an analysis of the Government's spending on personnel, on a cash basis, over 2020-21 to 2021-22. The report highlights some key findings that were generated from the Personnel Expenditure Analysis Tool, PBO's interactive online tool. The report also highlights potential cost pressures related to the current round of collective bargaining.

Key findings

- Operating spending reflects the broad range of the day-to-day costs of government operations for departments and Crown corporations, of which spending on personnel accounted for 52.3 per cent in 2021-22.
- Operating spending increased significantly over the past two years, rising from \$87.5 billion in 2019-20 to \$115.9 billion in 2021-22. Of the \$28.4 billion (32.5 per cent) increase in operating spending during this period, just over half was due to higher spending on personnel.
 - Personnel spending over the past two years increased by 30.9 per cent, from \$46.3 billion in 2019-20 to \$60.7 billion in 2021-22.
- Even after excluding one-time expenditures, such as spending related to actuarial deficiencies, growth in personnel spending over the past two years exceeded its pre-pandemic historical average due both to an expansion in the size of the public service and to increased compensation per full-time equivalent (FTE).
 - Over the past two years, the public service expanded by 31,227 FTE, an increase of 8.2 per cent relative to its pre-pandemic level in 2019-20. According to Departmental Result Reports, much of this expansion was prompted by the pandemic.
 - Over the same period, total compensation per full-time equivalent increased from an average of \$117,497 in 2019-20 to \$125,300 in 2021-22, an increase of 6.6 per cent. While increases in salaries were the largest contributor, spending on pensions, overtime and bonuses grew faster.
- Growth in compensation per FTE averaged 2.0 per cent over 2007-08 to 2019-20, reflecting in part negotiated wage settlements with public sector unions. At present, 26 of 28 bargaining groups across the public service are in the process of negotiating collective agreements.

- We consider a risk scenario where growth in compensation per FTE exceeds that underlying our March outlook of 2.5 per cent annually, on average, over 2021 to 2023.
- In such risk scenario with an assumption of a 4.5 per cent annual increase in compensation per FTE over 2021 to 2023 (growing in line with inflation thereafter), we estimate the cost to the Government would be \$19.7 billion over 2023-2024 to 2027-28.
- This estimate, however, should be viewed as an upper bound since the increase is assumed to apply to the entire public service. Further, the cost would not be fully incremental if the Government has previously made some provisions for these pressures.

Introduction

Operating spending reflects the broad range of day-to-day costs of government operations for departments and Crown corporations, of which personnel spending is the largest cost. In 2021-22, on a cash basis, the Government spent \$60.7 billion on its personnel, accounting for 52.3 per cent of its total operating spending.¹

Due to the size and complexity of personnel spending, PBO built the Personnel Expenditure Analysis Tool (PEAT) to assist parliamentarians in their scrutiny of the Government's largest operating cost. The PEAT is an interactive tool that allows for the comparison of personnel trends across time for the overall government, as well as for individual departments.²

Key insights and trends that can be identified using this tool (for the 2006-07 to 2018-19 period) were summarized in a previous report.³ This update focuses on personnel spending over the past two years. Our analysis also considers a risk scenario where growth in compensation per full-time equivalent exceeds a status quo projection from our March 2023 Economic and Fiscal Outlook (EFO).⁴

Both this report and our online tool focus on the cash component of the Governments' personnel spending.

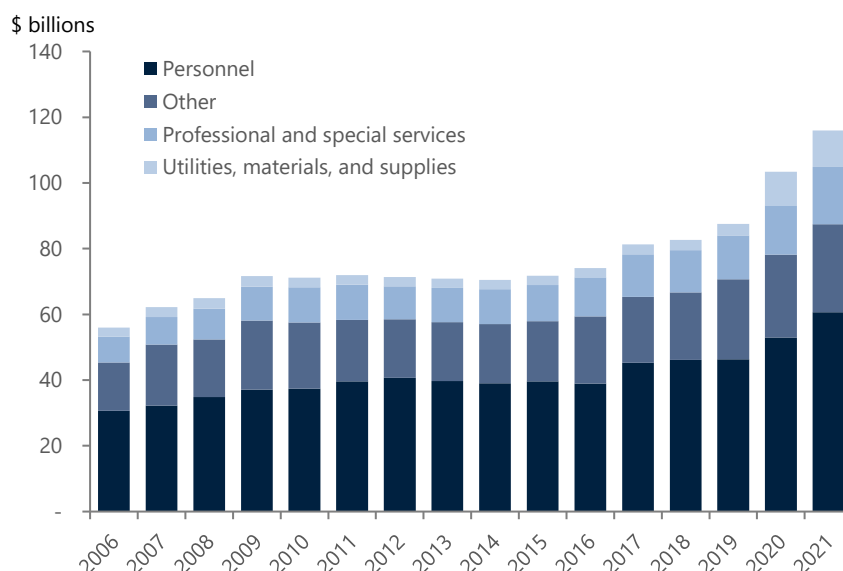
Users are encouraged to access our tool [online](#).

Operating spending

Operating spending increased significantly over the last two fiscal years, rising from \$87.5 billion in 2019-20 to \$115.9 billion in 2021-22, an increase of \$28.4 billion, or 32.5 per cent (Figure 1). This represents average annual growth of 15.2 per cent, well above the 3.6 per cent historical average growth in operating spending observed over 2007-08 to 2019-20.

Figure 1

Operating spending, 2006-07 to 2021-22



Sources: Public Accounts of Canada and Office of the Parliamentary Budget Officer.

Notes: Data are in fiscal years (2021 corresponds to fiscal year 2021-22).

"Other" includes expenditures related to transportation and communication, information, rentals, repair and maintenance, and other subsidies.

While a significant portion of this growth was due to increases in personnel spending, approximately half (49.6 per cent) of the total increase was attributable to other components of operating spending. Expenditures related to the COVID-19 pandemic drove much of the growth in operating spending over the past two years.

Spending by the Public Health Agency of Canada (PHAC) on "utilities, materials and supplies" increased substantially in response to the pandemic. In 2018-19, the last full fiscal year before the pandemic, this agency spent \$23 million in this category, well below the \$6.3 billion it spent in 2021-22. PHAC's spending on utilities, materials and supplies alone accounted for 21.1 per cent of the increase in the Government's overall operating spending between 2019-20 and 2021-22.

Government-wide spending on professional and special services also grew substantially over the past two years, increasing from \$13.3 billion in 2019-20 to \$17.5 billion in 2021-22—an average annual growth rate of 14.7 per cent. This was a major break from its historical trend where this component of spending grew at an average of 4.3 per cent per year over 2007-08 to 2019-20.

Much of the increase in professional and special services over the past two years was due to spending by the Department of National Defense (DND) and PHAC. DND considerably expanded its expenditures on engineering and architectural services. PHAC's spending growth in this category was concentrated in health and welfare services, some of which could be pandemic related.⁵

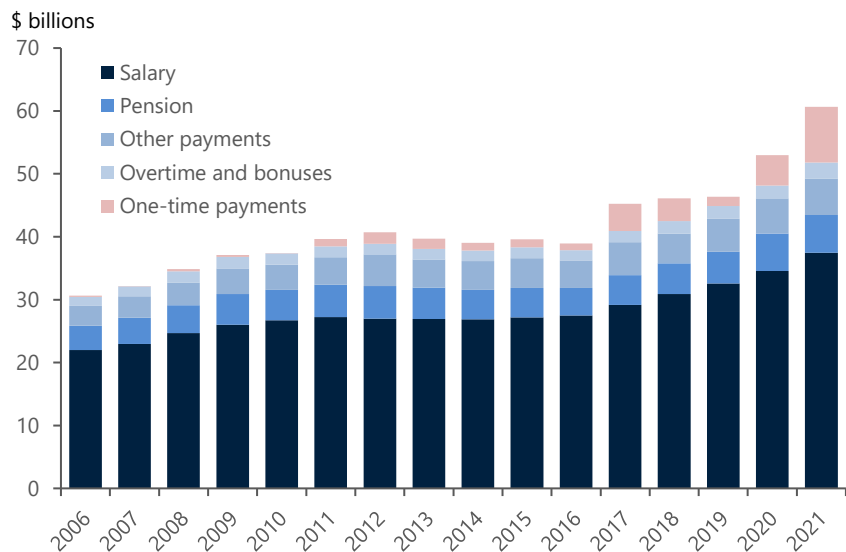
The increase in spending on professional and special services over the past two years accounted for 14.7 per cent of the increase in the Government's overall operating spending.

Personnel spending

Personnel spending is comprised of salaries (61.7 per cent in 2021-22), pensions (9.9 per cent), overtime and bonuses (4.1 per cent), one-time expenditures (14.6 per cent) and other payments (Figure 2). One-time payments include, for example, spending related to actuarial deficiencies in the Government's Superannuation Account. Other payments include, for example, spending related to employer contributions to Employment Insurance.

Largely driven by one-time expenditures, personnel spending grew significantly over the past two years, increasing by 30.9 per cent from \$46.3 billion in 2019-20 to \$60.7 billion in 2021-22.⁶ This represents average annual growth of 14.4 per cent, well above the historical average growth of 3.4 per cent per year observed over 2007-08 to 2019-20.

Figure 2 Components of personnel spending, 2006-07 to 2021-22



Sources: Public Accounts of Canada and Office of the Parliamentary Budget Officer.

Notes: Data are in fiscal years (2021 corresponds to fiscal year 2021-22).

Other payments include spending related to Employment Insurance, employer contributions to hospital and medical plans and disability insurance, and other miscellaneous payments.

One-time payments include spending related to actuarial deficiencies in the Government's Superannuation Account, retroactive payments, severance pay and termination benefits (immediate settlement), and compensation for the Phoenix pay system.

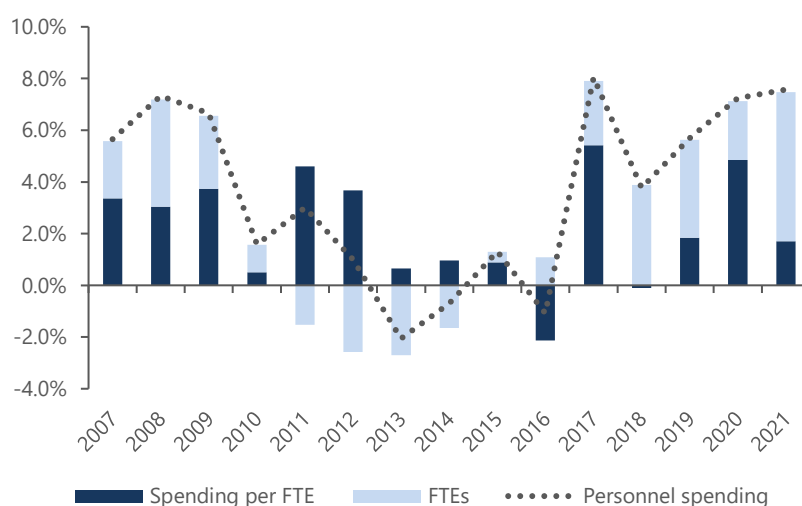
That said, even when one-time expenditures are eliminated, personnel spending over the past two years grew more than twice as fast as the historical average over 2007-08 to 2019-20 (7.4 per cent annual growth compared to 3.1 per cent).⁷ The top-three largest departments (Canadian Revenue Agency (CRA), DND and the Royal Canadian Mounted Police

(RCMP) accounted for 35.4 per cent of the growth and represented 41.6 per cent of total FTEs in 2021-22.

After adjusting for one-time expenditures, spending on personnel can be divided into the number of personnel (FTEs) and the compensation per FTE, to help identify the underlying cost drivers. Over the past two years, growth in personnel spending was largely driven by a significant expansion of the public service, accounting for approximately 60 per cent of the overall growth in personnel spending (Figure 3).

Figure 3 Composition of growth in personnel spending, 2007-08 to 2021-22

Year-over-year growth



Sources: Public Accounts of Canada, Office of the Parliamentary Budget Officer.

Note: Data are in fiscal years (2021 corresponds to fiscal year 2021-22).

Full-time equivalents

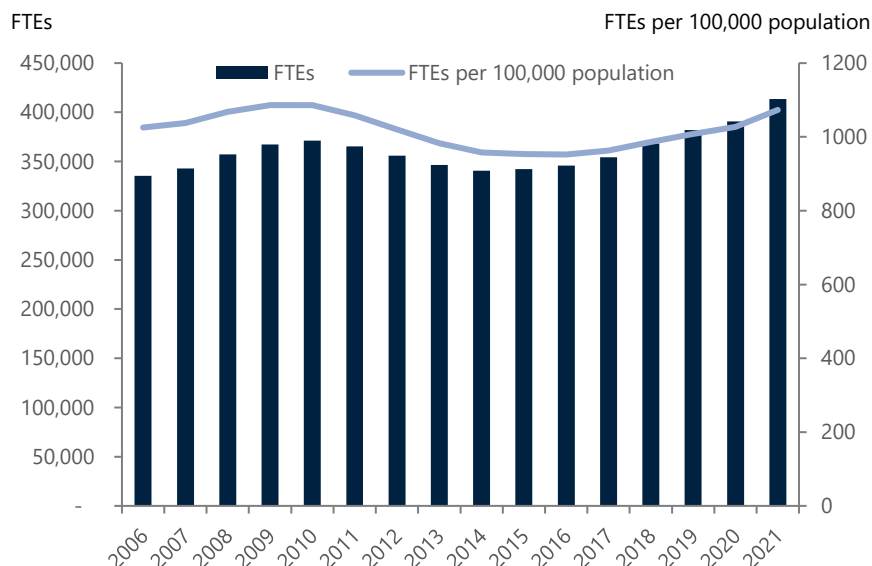
Over the past two years, the public service expanded by 31,227 full-time equivalents⁸, from 382,107 in 2019-20 to 413,334 in 2021-22, an increase of 8.2 per cent. This represents an average annual increase of 4.0 per cent, exceeding the historical average of 1.0 per cent observed over 2007-08 to 2019-20. Departmental Result Reports indicate that much of this expansion was prompted by the pandemic.

For example, over the past two years, the number of FTEs in CRA, Employment and Social Development Canada (ESDC) and PHAC increased significantly, adding close to 18,000 FTEs—accounting for almost 60 per cent of the overall increase in FTEs (see Appendix A).

Since 2006-07, the public service expanded by almost 78,000 FTEs, an increase of 23.2 per cent. When measured on a per capita basis, the number

of FTEs per 100,000 population increased by 4.7 per cent, from 1,025 in 2006-07 to 1,073 in 2021-22. That said, the number of FTEs per capita has fluctuated somewhat, reaching a peak of 1,086 FTEs per 100,000 population in 2010-11 to a low of 952 in 2016-17 (Figure 4).

Figure 4 Full-time equivalents, 2006-07 to 2021-22



Sources: Public Accounts of Canada, Office of the Parliamentary Budget Officer and Statistics Canada.

Note: Data are in fiscal years (2021 corresponds to fiscal year 2021-22).

Compensation per FTE

Compensation per full-time equivalent increased from an average of \$117,497 per FTE in 2019-20 to \$125,300 in 2021-22, an increase of 6.6 per cent. This represents an average annual increase of 3.3 per cent, exceeding the historical average of 2.0 per cent growth observed over 2007-08 to 2019-20. Spending on salaries, the largest category of personnel spending, drove much of this growth, accounting for approximately 70 per cent of growth in compensation per FTE over the past years.

Faster growth in spending on salaries per FTE over the past two years could reflect an expansion in the share of knowledge-intensive employees⁹ coupled with faster employment growth at the higher pay-scale levels for these employees.¹⁰ Additionally, several collective agreements with large bargaining groups were signed in 2020 and 2021, increasing their base pay.¹¹

Over 2020-21 to 2021-22, increased spending on salaries by ESDC, CRA, PHAC and the Canada Border and Services Agency (CBSA) accounted for almost 60 per cent of the growth in spending on salary per FTE (Table 1). These departments were significant in explaining growth due to their large size, as change originating from them would have a greater effect on overall spending compared to smaller departments.

Table 1 Spending on salaries by selected departments

		Total government	Department of National Defense	Royal Canadian Mounted Police	Canadian Revenue Agency	Employment Social Development Canada	Public Health Agency of Canada	Canada Border and Services Agency
2016-17	Total (\$ millions)	27,484	6,719	2,362	2,668	1,463	174	972
	Per FTE (\$)	79,473	75,860	80,978	68,881	67,025	82,062	71,806
2017-18	Total (\$ millions)	29,189	7,075	2,476	2,941	1,563	179	985
	Per FTE (\$)	82,354	78,788	83,766	73,968	67,644	86,307	72,797
2018-19	Total (\$ millions)	30,912	7,358	2,559	2,937	1,632	184	1,293
	Per FTE (\$)	83,956	80,005	85,678	71,493	68,579	86,223	92,703
2019-20	Total (\$ millions)	32,571	7,580	2,617	3,078	1,751	203	1,163
	Per FTE (\$)	85,240	81,284	84,112	73,737	70,870	88,348	80,353
2020-21	Total (\$ millions)	34,585	7,760	2,658	3,658	2,009	261	1,247
	Per FTE (\$)	88,498	85,108	85,679	84,442	70,984	91,165	86,644
2021-22	Total (\$ millions)	37,439	8,018	2,909	3,840	2,372	384	1,418
	Per FTE (\$)	90,578	88,017	93,358	76,874	73,167	88,011	94,146

Sources: Receiver General for Canada and Office of the Parliamentary Budget Officer.

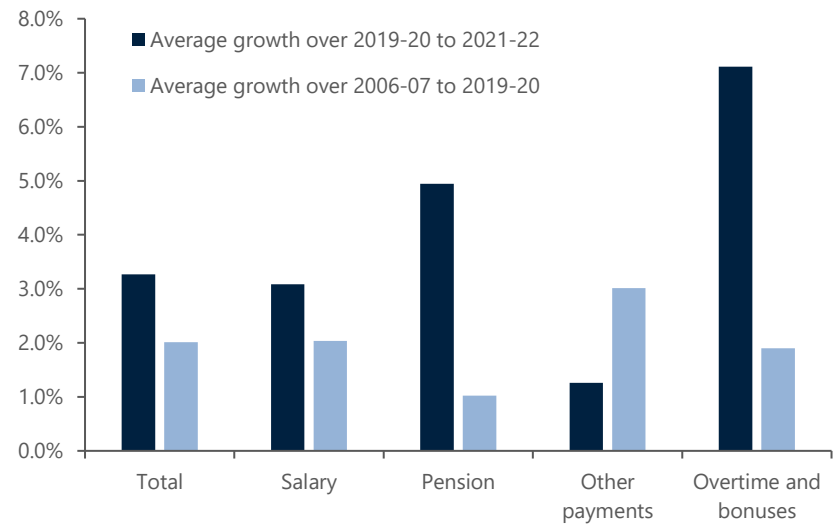
While spending on salaries drove much of the growth in compensation per FTE over the past two years, growth in spending on pensions and on overtime and bonuses was faster both in comparison to salaries and to historical average growth observed over 2006-07 to 2019-20 (Figure 5).

Spending on pensions per FTE increased by 5.4 per cent annually, on average, in the past two years—well above historical average growth of 1.1 per cent. DND and the RCMP were both significant contributors to this increase. The increase for both organizations was due to higher salaries filtering through to greater contributions to pensions, combined with an increase in contribution rates.¹²

Over the same period, overtime and bonuses per FTE grew on average by 7.4 per cent, well in excess of historical average growth of 2.0 per cent. The RCMP was a significant contributor to this expansion, citing an increase in operational tempo as the source.¹³

Figure 5 Composition of growth in compensation per FTE

Average annual growth



Sources: Receiver General for Canada and Office of the Parliamentary Budget Officer.

Personnel spending risk scenario

We consider a risk scenario where growth in compensation per FTE exceeds that underlying our March outlook of 2.5 per cent annually, on average, over 2021 to 2023. Our March outlook is based on hiring plans in the 2022-23 Departmental Plans, adjusted for historical average forecast errors.¹⁴

On average, over 2007-08 to 2021-22, compensation per FTE increased by 2.2 per cent—moderately above the average rate of inflation of 1.8 per cent. This expansion is due in part to the collective agreements negotiated with public sector unions. The growth in compensation built into these agreements typically reflects, to some degree, observed inflation as well as expectations about future inflation.

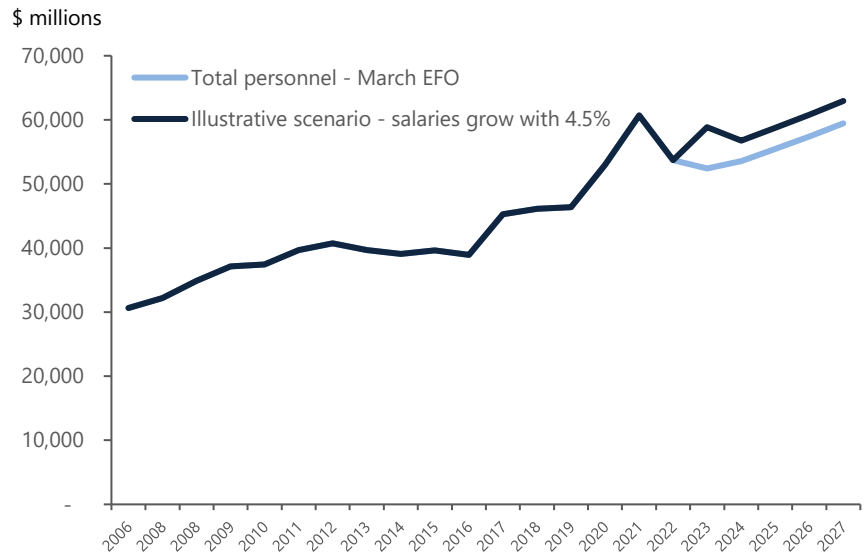
The Government is currently in the process of negotiating with 26 of 28 bargaining groups across the public service. Some of the demands include salary increases to account for higher inflation experienced over the past two years, as well as expectations of future inflation. For example, the Public Service Alliance of Canada (PSAC), one of the largest unions representing public sector workers, is currently negotiating for a 4.5 per cent annual increase over the 2021-2023 period.¹⁵

To illustrate the potential impact on the Government's personnel spending of higher-than-expected increases in public sector compensation, we consider a risk scenario in which salaries, wages and other standard compensation per FTE—across the entire public service—grow by 4.5 per cent annually over 2021 to 2023, and then grow in line with inflation thereafter.¹⁶ The corresponding impact of higher salaries on current service costs is also taken into account. Under this scenario, we estimate the additional cost to the Government would be \$19.7 billion over 2023-2024 to 2027-28, relative to our March 2023 Economic and Fiscal outlook (Figure 6).

This estimate, however, should be viewed as an upper bound since the increase is assumed to apply to the entire public service. Further, the cost would not be fully incremental if the Government has previously made some provisions for these pressures.

Figure 6

Personnel spending risk scenario: higher compensation per FTE



Sources: Public Accounts of Canada and Office of the Parliamentary Budget Officer.

Notes: Data are in fiscal years (2026 corresponds to fiscal year 2026-27). The projection period covers 2022-23 to 2027-28.

The scenario assumes that retroactive payments totalling \$3.3 billion in 2021-2023 will be expensed in 2023-24. The higher growth in salaries occurs only over the 2020-21 to 2023-24 period, including the retroactive payments. After this period growth is based on projected inflation.

Appendix A: Full-time equivalents by selected departments

Over the last two years, the public service did not grow uniformly across its departments (Table A-1). Many departments, such as ESDC, CRA and PHAC, grew significantly, as they temporarily expanded their FTEs to address the pandemic and other temporary pressures. Conversely, other departments, such as DND saw a decline in their FTEs.¹⁷

Table A-1 Full-time equivalents by selected departments

		Total government	Department of National Defense	Canada Revenue Agency	Employment and Social Development Canada	Public Health Agency of Canada	Library and Archives Canada
2016-17	FTEs	345,833	88,573	38,728	21,825	2,126	903
	Change	3,704	541	751	815	-16	-10
	Change (%)	1.1%	0.6%	2.0%	3.9%	-0.8%	-1.1%
2017-18	FTEs	354,438	89,800	39,765	23,106	2,075	941
	Change	8,605	1,227	1,037	1,281	-51	38
	Change (%)	2.5%	1.4%	2.7%	5.9%	-2.4%	4.2%
2018-19	FTEs	368,195	91,970	41,075	23,796	2,134	955
	Change	13,757	2,170	1,310	690	59	14
	Change (%)	3.9%	2.4%	3.3%	3.0%	2.8%	1.4%
2019-20	FTEs	382,107	93,252	41,753	24,707	2,296	1,041
	Change	13,912	1,282	678	911	162	87
	Change (%)	3.8%	1.4%	1.7%	3.8%	7.6%	9.1%
2020-21	FTEs	390,789	91,183	43,324	28,296	2,860	959
	Change	8,651	-2,069	1,571	3,589	564	-82
	Change (%)	2.3%	-2.2%	3.8%	14.5%	24.6%	-7.9%
2021-22	FTEs	413,334	91,094	49,950	32,413	4,368	853
	Change	22,536	-89	6,626	4,117	1,508	-106
	Change (%)	5.8%	-0.1%	15.3%	14.5%	52.7%	-11.1%

Sources: Receiver General for Canada and Office of the Parliamentary Budget Officer.

Notes

1. On a cash basis, personnel spending represents work performed in the current year, which includes salaries and wages, overtime, severance and bonuses, employer contributions to Employment Insurance, current payments for federal pension benefits, and other payments paid in cash.

On an accrual basis, personnel spending also includes various adjustments for differences between benefits paid and benefits earned, retroactive salaries related to unsigned agreements and other adjustments.

Between 2017-18 and 2020-21, accrual adjustments averaged \$3.6 billion. That said, these adjustments can fluctuate significantly from year to year. For example, the accrual adjustment in 2021-22 was \$8.9 billion.

2. Further discussion of the methodology of PEAT can be found in the earlier report and online at: <https://www.pbo-dpb.ca/en/research--recherches/tools--outils/personnel-expenditure-analysis-tool--outil-examen-dependences-personnel/index#/>.
3. For additional details see: <https://www.pbo-dpb.ca/en/publications/RP-2021-021-S--personnel-expenditure-analysis-tool--outil-examen-dependences-en-personnel>.
4. PBO's March 2023 Economic and Fiscal Outlook is available at: <https://www.pbo-dpb.ca/en/publications/RP-2223-025-S--economic-fiscal-outlook-march-2023--perspectives-economiques-financieres-mars-2023>.
5. For example, Switch Health, which specializes in COVID-19 testing and booster vaccinations, received \$426 million in 2021-22. For additional details, see: <https://open.canada.ca/data/en/dataset/ac597ff8-ee13-48c3-b315-42e528090af2/resource/1389ddfb-9008-4f26-8ef9-dfeb84f06806>.
6. In 2021-22, one-time payments were \$8.9 billion. Of these, \$1.1 billion were related to retroactive payments of current and previous fiscal years and \$7.8 billion were related to a one-time cash payment made to the Government's Superannuation Account to eliminate an actuarial shortfall in the pension account. On an accrual basis, these payments do not have an impact on the Government's budgetary balance.
7. Over 2010-11 to 2014-15 personnel spending was restrained, and the number of federal FTEs declined by 8 per cent from 371,085 to 340,699. That said, even when excluding this period of restraint, personnel spending over the past two years grew faster than the pre-pandemic period (7.4 per cent compared with 4.3 per cent).
8. We use FTE values published by the Treasury Board Secretariat. These values do not include FTEs employed by parliamentary entities. Expenditures by parliamentary entities are included when calculating total government expenditures, resulting in per FTE values for the government as a whole being greater than they otherwise would be.

Personnel spending by parliamentary entities represents 1 per cent of total personnel spending, and as such should not materially affect our analysis.

9. Knowledge-intensive employees (Administrative Services, Economics and Social Science Services, Program Administration, Information Technology, Engineering and Scientific Group) comprised an ever-increasing share of federal employees since the 1990s. For example, in 2020-21, knowledge-intensive employees accounted for more than 37 per cent of the public service compared to 31 per cent in 2009-10.

Knowledge-intensive workers are “highly skilled employees, with significant expertise gained through a combination of education, training, and experience.”

For additional details, see: <https://www.canada.ca/en/treasury-board-secretariat/services/innovation/human-resources-statistics/demographic-snapshot-federal-public-service-2021.html>.

10. To compare the salaries of knowledge-intensive employees, employment data by classification were aggregated and merged with annual rates of pay from the most recent collective agreements.

Sources: <https://www.pbo-dpb.ca/en/information-requests--demandes-information/IR0671> and the respective collective bargaining agreements for each classification group.

11. In 2020, Operational Services, Technical Services, Program and Administrative Services, as well as the Education and Library Science groups signed new collective agreements cumulatively increasing their base pay rates by 6.5 per cent from 2017 levels.

In 2021, the RCMP Regular Members and Reservists group signed a new collective agreement cumulatively increasing their base pay rates by 18.9 per cent from 2016 levels. In addition, the Information Technology group signed a new collective agreement cumulatively increasing their base pay rates by 6.7 per cent from 2017 levels.

For additional details, see: <https://www.canada.ca/en/treasury-board-secretariat/services/collective-agreements/collective-bargaining/collective-bargaining-update.html>.

12. For example, DND increased personnel spending by \$663.6 million. Much of this increase was due to salary increases and resulting increases in employer contributions to pension and benefit funds. DND also increased the number of full-time reservists after COVID-19 restrictions were lifted and expanded mental health service payments during this period. For additional details, see:

<https://www.canada.ca/en/department-national-defence/corporate/reports-publications/quarterly-financial/december-31-2021.html>.

For additional details on increased contribution rates, see: <https://www.canada.ca/en/treasury-board-secretariat/services/pension-plan/active-members/pension-contribution-rates-major-public-sector-pension-plans.html>.

13. For additional details, see: <https://www.rcmp-grc.gc.ca/en/quarterly-financial-report-the-period-ending-december-31-2021>.

14. PBO will publish additional analysis on the 2023-2024 Departmental plans at a later date.
15. For additional details, see:
https://psacunion.ca/sites/psac/files/commonissues_en_combined_02-03-2022.pdf.
16. As most collective agreements expire in 2022, this estimate assumes that only compensation for PSAC will increase retroactively by 4.5 per cent in 2021, and for the whole public service in 2022 and 2023, after which compensation per FTE is projected to grow in line with inflation.
17. In the case of DND, full-time equivalents decreased by 2,158 over the past two years, primarily driven by a reduction in its Defence Team personnel due to attrition and difficulty recruiting. For additional details, see: <https://www.canada.ca/content/dam/dnd-mdn/documents/reports/2022/2021-22-Departmental-Results-Report.pdf> (page 116).