Economic Benefits of Canadian Public Sector Pension Plans

November 2021

CANADIAN CENTRE FOR ECONOMIC ANALYSIS

The Canadian Centre for Economic Analysis

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This study was conducted with the support of the Canadian Public Pension Leadership Council (CPPLC). The opinions, results, views, and conclusions reported in this publication are those of the authors and do not necessarily reflect those of CPPLC or its member organizations. No endorsement by CPPLC is intended or should be inferred. No identifiable membership data was used in this analysis.

CPPLC is a non-partisan group of senior public sector pension plan leaders from across the country. Formed in 2015, CPPLC is a registered notfor-profit Canadian corporation that represents 12 plans in seven provinces. CPPLC's mission is to promote a thoughtful, evidence-based, national pension policy discussion. Participating pension plan leaders seek to help inform the ongoing debate about retirement security using research produced by CPPLC.

Citation: Economic Benefits of Canadian Public Sector Pension Plans. Canadian Centre for Economic Analysis Report commissioned by Canadian Public Pension Leadership Council. September 2021.



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ACKNOWLEDGMENT: CPPLC MEMBERS AND CONTRIBUTORS

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This research, which has been prepared by CANCEA, went through successive rounds of review by the members of CPPLC Research Committee. CANCEA is grateful to CPPLC for the collective expertise and insights provided to shape this report.



EXECUTIVE SUMMARY

This study quantifies and describes the economic benefits of Canada's public sector pension plan (CPSPP) activities to Canada's economy and at the provincial level. These benefits focus on the economic activity generated from the following sources:

- 1. Pension plan members spending their retirement benefits payments in Canada.
- 2. Pension plan operations in Canada, including salaries and wages to employees residing in Canada.

These economic activities support demand for labour and subsequent spending, which ripples through the economy. Throughout the report, contributions are grouped by the source of CPSPP driven economic activity. "Contribution from pension spending" includes all economic activity supported by CPSPP retirees when they spend their retirement benefits payments, and "contribution from operations" includes the economic activity driven by CPSPP operations.

The report does not cover the role of Canadian CPSPP investments within Canada, which have a substantial impact in terms of economic benefit and jobs created across Canada. CPSPPs have \$1.27 trillion invested in assets around the world, with a good proportion of that invested in Canada. These investments are in public markets, as well as in private markets (such as direct investments in established companies and start-ups), infrastructure, and real estate such as offices, housing, and shopping malls.

Benefits are reported in terms of Gross Domestic Product (GDP), wages and jobs, private business investment and government revenue supported in Canada and provincially. The number of people, households and businesses sharing in the economic benefits are statistical estimates of person, household or business equivalents. This means that a benefit that is partially split over many people or households will be added together to form one person, household or business equivalent. For example, if 10% of the incomes of ten individual households are supported by Canadian CPSPPs, this is reported as one household equivalent.



RESULTS AT A GLANCE



With over 5.26 million active and retired members, the membership of CPSPPs is equivalent to the population of British Columbia. There are over 3.41 million active members and 1.85 million pension recipients in Canada. Members serve their communities working as nurses, bus drivers, janitors, paramedics, firefighters, police, teachers, and social workers, to name a few.

Member and employer contributions are invested in Canada and around the world by the plans to provide a stable and secure retirement income, thereby helping employers save costs through enhanced attraction, retention, and engagement. Plans invest in buildings, infrastructure, companies, markets, and start-ups, managing a total of over \$1.27 trillion in

These investments have generated \$92 billion annually over the last five years in returns from those investments. About \$49 billion is paid annually to retirees living around Canada, primarily derived through investment income. Around 65% of retirees in public sector plans are female.



ECONOMIC BENEFITS TO CANADA

CPSPP retirement benefits represent an important source of retirement income in Canada, totalling over 40% of all private retirement income¹ in the country. Retired members live all around Canada and spend much of their retirement income in their local communities and surrounding areas. Through this pension spending alone, CPSPP members support over 794,000 jobs across the country (90.5% of the total contribution of CPSPP) and contribute over \$74 billion to Canada's GDP, which averages to \$16.72 of GDP for every \$10 of retirement benefits payments.

CPSPP operations in Canada contribute to economic activity as well. CPSPP operations support over 83,000 jobs in Canada (9.5% of the total contribution of CPSPP) and over \$8 billion in GDP.

• Equivalent to 3.6% of the Canadian economy. \$82.0 billion • \$16.72 of GDP supported for every \$10 of pension payments. • Support of rural economies is 6.4% greater than urban **Total GDP** Contribution economies on a per capita basis. Key industries include retail, accommodation and food GDP <u>\$33.1 billion</u> services, manufacturing, finance and insurance, and real Wages estate. • Private capital investment by businesses in response to \$14.8 billion economic activity. **Business** • 55,500 businesses in total, of which 39,800 have under ten investment employees and 14,700 have 10-100 employees. • Using average job growth rates, it would take Canada 3.5 877,100 years to generate the same number of jobs as those Contribution Total Jobs supported by CPSPPs. • Jobs for people under the age of 35 years account for 39% of Jobs 345,800 jobs, of which 180,600 are performed by females and Jobs under 35 years 165,200 by males. • Jobs support over 333,400 households with children, of 2,167,000 which over 82,400 are lone parent households. **People affected** • In total 797,900 children live in these households. \$21.4 billion Government tax Contributions Government revenues • Federal and provincial government revenue collected <u>\$11.3 billion</u> through personal, corporate, and consumption taxes from the economic activity generated. Federal tax • Total government revenue is equivalent to \$4.37 per every \$10 of retirement pension income. \$10.1 billion **Provincial tax** revenues

CPSPP Economic Benefits

¹ Private retirement income comprises all formal retirement savings vehicles, including defined benefit and defined contribution plans, Tax-Free Savings Accounts (TFSA), and Registered Retirement Savings Plans (RRSP). It excludes other programs such as the Canada Pension Plan (CPP), Old Age Security (OAS), and the Guaranteed Income Supplement (GIS).



SUMMARY OF PROVINCIAL BENEFITS

The size of the contribution of CPSPPs and the main industries benefitting from their activities differ between provinces depending on each province's demographic and industry base. The following table summarizes the key contributions of CPSPPs in each province. Atlantic Canada is the sum of New Brunswick, Newfoundland and Labrador, Nova Scotia, and Prince Edward Island.

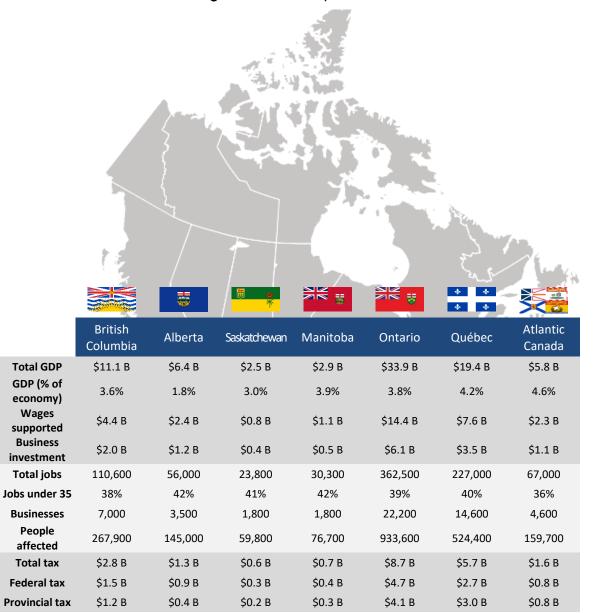


Figure 1 Summary of Provincial Benefits

Note that contributions may not add exactly to totals due to rounding.

Additional details on the benefits to each province can be found in Section 3.3, and single page summaries in Appendix A.



1.0 INTRODUCTION

1.1 BACKGROUND

In 2019, over 5.2 million Canadians were members of CPSPPs. Through their work, these members and their employers build communities and serve the public in sectors such as municipalities, healthcare, education, transit, public utilities, emergency services, community social services, and children's aid societies across Canada. The pension contributions made by CPSPP members and their employers are invested to provide members with a stable and secure retirement.

The economy of every community in Canada is positively impacted by CPSPP activity, whether through the work of active members and their employers, retired members' pension-related spending, or through the local investment activities that pension plans perform on behalf of their members.

1.2 OBJECTIVE AND APPROACH

The objective of this study is to quantify and describe the economic contribution that CPSPPs had in Canada and its provinces in 2019 (the latest data available). Economic contribution encompasses all economic activity that occurs through the income generated by CPSPPs and their members, and the subsequent spending in Canada's economy. These contributions are quantified in terms of economic metrics, including GDP, jobs, wages, private business investment and federal and provincial government revenue. When the report refers to the number of people, households or businesses sharing in the economic contributions, it is important to keep in mind that these are statistical estimates of person, household or businesses will be added together to form one person, household or business equivalent. For example, if 10% of the incomes of ten individual households are supported by public pension plans, this makes one household equivalent.

Note that given the limitation of data made publicly available, the scope of the analysis covered in this report does not cover the role of CPSPP investments within Canada. These investments can have a substantial impact in terms of economic benefit and jobs created across Canada. CPSPPs have \$1.27 trillion invested in assets around the world, with a good proportion of that invested in Canada. These investments are in public markets, as well as in private markets such as direct investments in companies and start-ups, in infrastructure, and real estate such as offices, housing, and shopping malls.

1.2.1 PENSION PLAN SPECIFIC DEFINITIONS

The following definitions have been adopted in this report and are consistent with the definitions used by Statistics Canada.

Active member: An employee of an employer participating in a CPSPP who is making, or is deemed to be making, contributions to a CPSPP.



Defined benefit (DB) plan: An RPP that provides a guaranteed retirement benefit based on an established formula commonly based on factors such as age, earnings and years of service.

Defined contribution (DC) plan: An RPP that specifies the employee's (if the plan is contributory) and the employer's contributions. Members' retirement benefits are provided from accumulated contributions plus the return on the investment of these monies.

Pension employees: Those employees operationally working directly for the pension, pension plan administrators and other service providers providing services under contract.

Private Sector: Type of organization that includes incorporated and unincorporated businesses, religious, charitable and other non-profit organizations, co-operatives, trade or employee associations, and private educational and health institutions.

Public Sector: Type of organization that includes municipal, provincial and federal governments and enterprises, crown corporations, government boards, commissions and agencies, and public educational and health institutions.

Registered Pension Plans (RPPs): A pension plan registered with Canada Revenue Agency and commonly with a provincial pension regulatory authority. The purpose of such plans is to provide employees with a regular income at retirement.

Retired member: A member who has terminated employment and is receiving a retirement benefit from the pension plan.

1.2.2 ECONOMIC CONTRIBUTION EXPLAINED

The economic contribution of an entity's activities is the economic footprint of the company in the province. It includes the economic activity directly generated by operations and investment activities ("direct effects"), as well as the economic activity generated indirectly through business-to-business transactions with other companies that provide goods and services to the first company ("indirect effects"). Finally, it includes the contribution to the provincial economy made by people spending wages from incomes that are supported by these economic activities ("induced effects").

More detailed information about the economics underpinning the methodology of this study can be found in Appendix B.

The key interactions between people and businesses that enable economic activity to spread throughout the economy are presented in Figure 2. In general terms, the economy consists of people, businesses, and governments who interact with one another through financial transactions.





People – receive wages from the organizations for which they work. They spend these wages with businesses on goods and services and pay part of their wage to their governments in taxes.

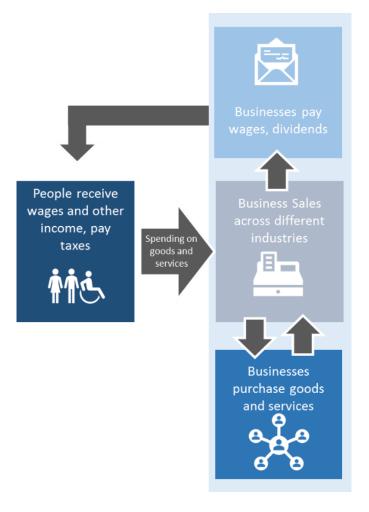


Businesses – pay wages and dividends to people, they purchase goods and services from other businesses and make investments, and they pay taxes to the government.



Governments – collect revenue through income, corporate, and consumption taxes.

Figure 2 Interactions Between People and Businesses in an Economy





1.2.3 SOURCES OF PUBLIC PENSION PLAN ECONOMIC CONTRIBUTION

In this analysis, the primary sources of the total economic contribution of CPSPPs to Canada are the following:



Retirement income paid to retired members, some of which is spent by households in their local communities.



Operations including salaries and wages to CPSPP employees and pension plan administrators residing in Canada.

This study focuses on the retirement income paid from CPSPPs to their plan members and follows the assumption of not including other payments such as death benefits, transfers to other plans and commuted value payments. These other types of payment are excluded because they are likely subject to a significant degree of reinvestment rather than being spent in the economy like pensions in pay.

Each of the over 1,200 CPSPPs in Canada have their own unique mix of investment activities in both public and private markets. Direct investments in public markets include sectors such as energy, technology, infrastructure, health sciences and real estate, to name a few. These investments support provincial economies by providing necessary capacity through infrastructure and services to households and businesses. However, given the limitation of data made publicly available, the analysis does not take into account the social and economic capacity that is provided from investment activities of CPSPPs.

Figure 3 shows how the sources of CPSPPs' economic activity enter into the calculation of economic contribution. The retirement income received from CPSPPs forms part of the disposable income that a retired person allocates to goods, services, and taxes, as are the wages received by the employees of CPSPPs.



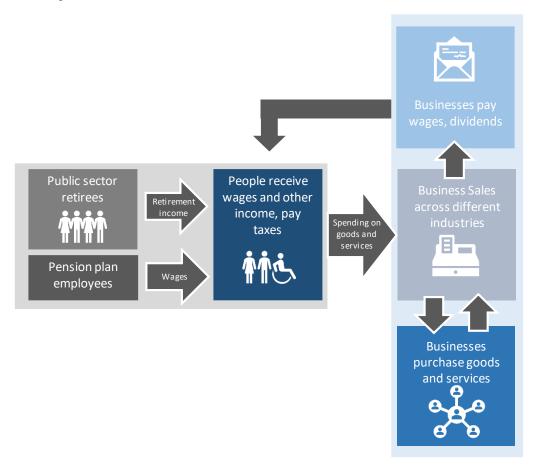


Figure 3 Sources of CPSPP Economic Activity and Interactions in the Economy

In the following sections, the economic benefits of CPSPPs are reported and broken down as follows:

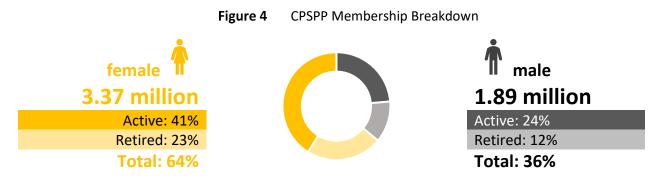
- Total Economic Contribution All the economic activity in Canada attributed to CPSPP activities.
- **Contribution from Pension Spending** The share of the total economic contribution that is attributed to CPSPP members spending their retirement benefits payments.
- Contribution from Operations The share of the total economic benefits that is attributed to the
 operations of CPSPPs.

Breaking results down in this way highlights the different sources of CPSPP economic benefits in each province and enables comparisons.

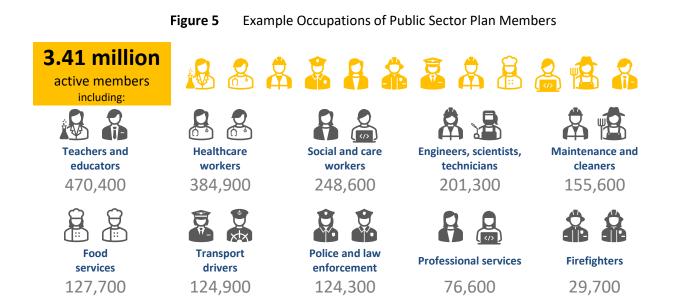


2.0 CPSPPS AND THEIR MEMBERS

There are about 5.26 million CPSPP members across 1,200 public sector plans. Members of CPSPPs work across a wide variety of fields serving their communities. A noticeable aspect of the CPSPPs is the strong female representation as active members and retirees. Of the 5.26 million active and retired members, 64% or 3.37 million are female, and there are almost twice as many female members than male members receiving a retirement income from CPSPPs.



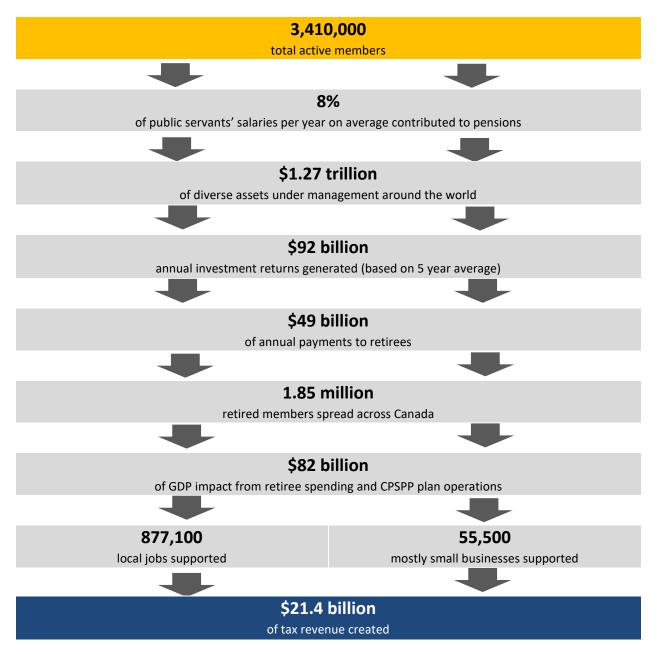
While many occupations are readily visible to the public, such as police, firefighters, and educators, CPSPP members also include people who provide critical maintenance, deliver social support and care, and do the administration to keep the public sector operating.



CPSPPs have \$1.27 trillion invested in Canada and around the globe to ensure diversity by both asset type and geography. The composition of these investments varies from plan-to-plan, but typically includes investments in both public and private markets. Investments in private markets include direct investments



in established companies and start-ups, infrastructure, and real estate such as offices, housing, and shopping malls, to name a few. Many of these investments are in Canada and help support economic growth, social equity, and job creation across the country. The investment returns generated each year cover pension payments to members, who spend their retirement income in their local communities and support local jobs.



Retirement benefits provided by CPSPPs are a major source of retirement income as they account for over 40% of all private retirement income in the country, serving 1.85 million retirees. The balance of 60% is made up of pension plans in the private sector (21%) and other types of retirement savings programs such as annuity contracts, deferred-profit sharing plans and individual RRSPs (39%).

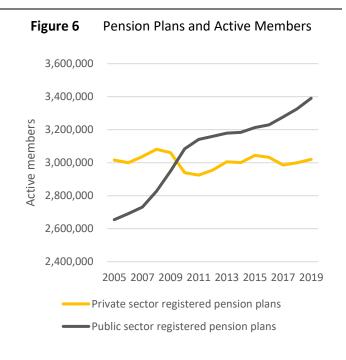


2.1 PENSION PLAN TRENDS

While the number of CPSPPs has been relatively constant over the past decade, the active membership has been increasing (Figure 6). In 2005, there were 2.65 million active members of CPSPPs, growing to 3.41 million active members as of 2019. Membership of private sector pension plans has stagnated, with 3.015 million active members in 2005, rising slightly to 3.020 million in 2019.

In terms of active membership, CPSPPs tend to be significantly larger than their private sector counterparts. In 2019, CPSPPs averaged about 2,750 active members across 1,233 plans, with 21 plans having over 30,000 active members each. In contrast, while there are many more registered private sector pension plans (with 15,375 in total), they average only 196 members each, and half as many plans (11) have more than 30,000 members.

The size of the CPSPPs is one of the factors that provides greater stability and security to members as well as reduced operating costs. CPSPPs currently have about 1.84 active members for every retiree, putting added emphasis on the need for efficient operations and stability.

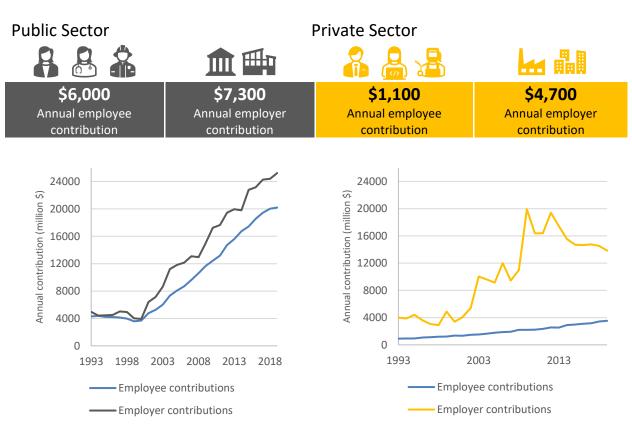


15,375 Private sector registered pension plans	1,233 Public sector registered pension plans
196	2,750



2.2 PENSION PLAN CONTRIBUTIONS

Pension plans in both the public and private sector rely on a balance of employer and employee contributions. CPSPPs are balanced with both employee and employer contributing similar amounts annually (Figure 7). On average, for CPSPPs, employee and employer contributions were \$6,000 and \$7,300, respectively. In contrast, private sector employers contribute a significantly higher amount than employees. Employees and employers in the private sector contributed an average of \$1,100 and \$4,700 annually, respectively.







2.3 CPSPP Assets

CPSPPs manage over \$1.27 trillion in assets and generated an average of \$92 billion annually over the last five years in investment revenue. This figure represents over twice the five-year average of annual pension contributions from active members (44%) and their employers (56%) over the same period. Total assets of CPSPPs have also grown substantially, doubling in the last decade.

The largest expenditure of CPSPPs are payments to retirees. In 2019, a total of \$49 billion was disbursed to retirees across Canada by these plans. This represents an average of about \$27,000 per retiree annually.

The ratio of assets under management to active members across CPSPPs is currently just over \$350,000. This is twice that of the private sector plans at around \$175,000.

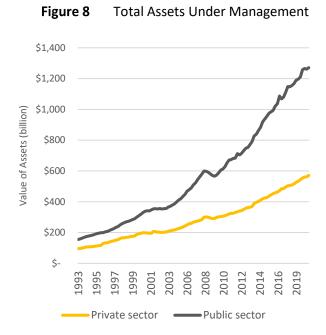
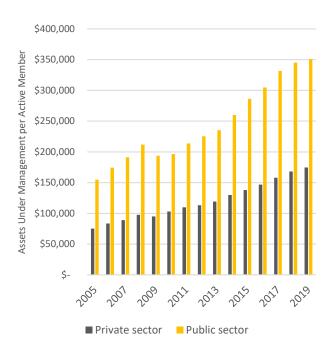


Figure 9 Assets Under Management per Active Member





3.0 ECONOMIC BENEFITS

The economic contribution of CPSPPs to Canada occurs through members spending their retirement income in Canada, and through the economic activity generated by CPSPPs operations and local investments.

This section reports the aggregate economic contributions of CPSPPs to employment in Canada. These effects are further broken down to understand which demographic groups, provinces, and industries in Canada are the main beneficiaries of the economic contribution. All results are reported for the 2019 year end.



3.1 TOTAL ECONOMIC BENEFITS: CANADA

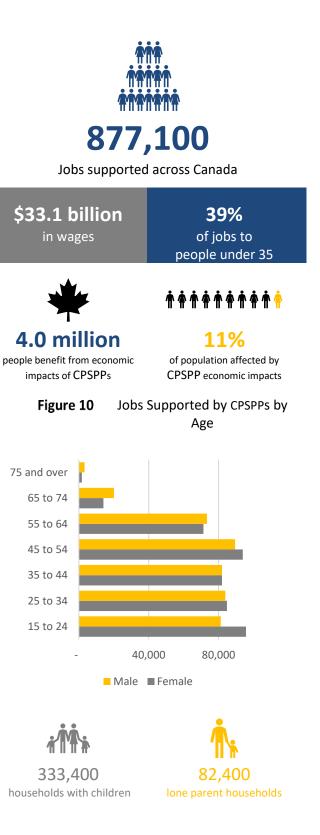
3.1.1 TOTAL EMPLOYMENT BENEFITS

CPSPPs' activities support over 877,100 full-time and part-time jobs in Canada, with an associated \$33.1 billion in wages. In total, the employment supported also benefits people an employee shares a household with. In total, this contribution affects over 2.1 million people in Canada who are not CPSPP members. Collectively, including each person who received retirement income from a CPSPP, CPSPPs' economic contribution affects over four million people in Canada, representing almost 11% of the Canadian population, or equivalent to the population of Alberta.

The jobs supported by CPSPPs are held by individuals ranging in age and family composition. Of the people whose employment is supported by CPSPPs, over 345,800 are young people under the age of 35 (39% of the total).

While full-time and part-time jobs are supported across all age groups across the country, the distribution between younger and older age cohorts varies depending upon the province. This reflects both the industry mixes that exist in each province, and the underlying demographic distributions. For example, Alberta has a younger population and the highest fraction of jobs supported, most of which are in the retail sector, resulting in over 42% of the supported jobs being occupied by people under the age of 35 years old. In contrast, Atlantic Canada, with its older population, and proportionally greater number of jobs supported, fewer than 30% of the jobs supported are occupied by those under 35 years old.

The employment supported by CPSPPs contributed to the wages of over 333,400 households with children, including 82,400 lone parent households, and 797,900 children in total.





The employment benefits of CPSPPs are distributed across all industries in Canada. Pension spending is the main way CPSPPs contribute to employment in Canada. Around 794,000 jobs (90.5% of the total contribution of 877,100 jobs) are supported by CPSPPs members spending at least some of their pension payments. When retirees receive their pension, they will generally spend a large proportion on goods and services in their local communities. This demand for goods and services, in turn, supports provincial business and industry and drives the contribution to employment.

		Beneficiary Industry	Jobs Supported by pension plan activities	% of all jobs supported
1	Ē	Retail trade	197,400	23%
2	×	Accommodation, food services	135,000	15%
3		Finance, insurance, real estate	102,000	12%
4	0	Manufacturing	79,300	9%
5	-//-	Health and social	43,500	5%

Table 1 Top Five Industry Jobs Supported by Pension Spending

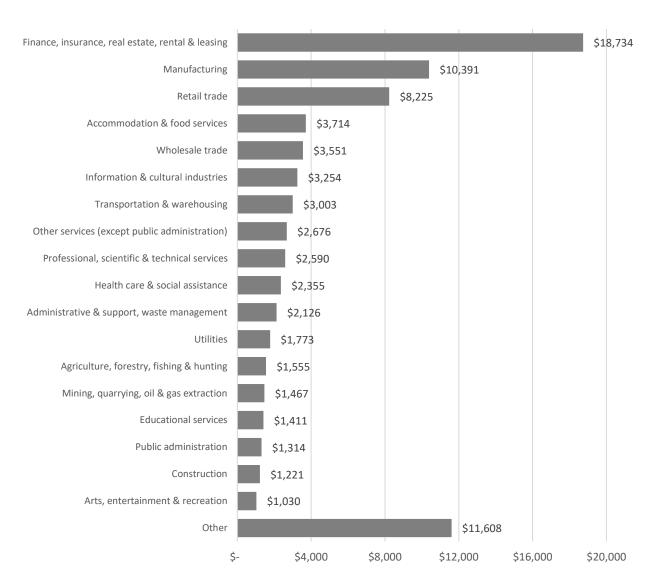
Over half of the jobs supported by CPSPP activities (59%) are in the retail trade, hospitality (accommodation and food services), finance (finance, insurance, and real estate) and manufacturing (Table 1). These are industries that require many workers to provide the goods and services that CPSPP retired members, and those responsible for operating CPSPPs, spend their pensions and wages on.

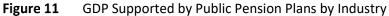
To illustrate: when a CPSPP member spends a day shopping in their local community, the retirement benefits they spend on Canadian-made goods in local shops will help support the wages of local shopkeepers (retail trade) and factory workers (manufacturing). If they dine out, they support the wages of the servers and other restaurant staff (hospitality), as well as the incomes of local producers (agriculture and manufacturing) who supplied the ingredients.



3.1.2 TOTAL GDP BENEFITS

Through its members and employees, CPSPPs support \$82 billion of Canada's GDP, which is 3.6% of the economy. Figure 11 presents the GDP contributions of CPSPP's activities by industry. Almost \$10.4 billion (13%) of the GDP supported by CPSPPs is in the manufacturing industry, which includes food production. Outside this industry, retail trade, real estate, and financial services (finance, insurance, real estate) are the main beneficiaries of the economic activity of CPSPPs.







3.1.3 ECONOMIC BENEFITS TO PRIVATE INVESTMENT AND BUSINESSES

Of the CPSPP economic benefits of \$82 billion, \$14.8 billion (18%) is due to private business investment by Canadian firms that respond to the increase in economic activity. Combined with the additional jobs supported, there are over 55,500 Canadian businesses that benefit from CPSPP economic contributions. Almost three quarters of the businesses supported have fewer than ten employees, with the retail trade being the largest single sector supported.

		< 10 employees	10 to 99 employees	100 or more employees	Total
Ē	Retail trade	7,210	3,780	260	11,250
	Other services (except public administration)	7,670	1,350	40	9,060
	Finance, real estate, rental	5,790	1,480	120	7,390
×	Accommodation and food services	3,050	3,220	100	6,370
	Professional, scientific, and technical services	2,590	380	30	3,000
	Transportation and warehousing	2,240	430	40	2,710
~	Health care and social assistance	1,950	620	60	2,630
0	Manufacturing	1,520	940	150	2,610
	Admin and support, waste management services	1,540	450	60	2,050
	Wholesale trade	1,200	580	30	1,810
Ļ ⊤į	Other sectors	4,990	1,500	170	6,670
	Total	39,760	14,720	1,060	55,540

Table 2 Number of Equivalent Businesses Supported by CPSPPs

Note that contributions may not add exactly to totals due to rounding.

This highlights the impact that CPSPP retirees and employees have on spending in small businesses in their communities. Food services, finance, real estate, and rentals are also key business sectors supported.



3.1.4 CONTRIBUTION TO GOVERNMENT REVENUE

The economic activity supported by CPSPPs support federal and provincial government revenue through personal, corporate, and consumption taxes. Income tax is collected on retirement income of retired members and the wages of people whose employment is supported by CPSPPs activities. The spending of wages and retirement income on goods and services also generates consumption tax revenue for governments.³

The combined federal and provincial government revenue generated by CPSPPs activities amounts to over \$21.4 billion.⁴ Of this total, over \$11.3 billion is federal government revenue (55% of which comes from income taxes) and over \$10.1 is the total revenue for all provincial governments (40% from income taxes).

		Federal Tax	Provincial Tax	Total
	British Columbia	\$1.5 billion	\$1.2 billion	\$2.8 billion
***	Alberta	\$0.9 billion	\$0.4 billion	\$1.3 billion
冊 ∌ ★	Saskatchewan	\$0.3 billion	\$0.3 billion	\$0.6 billion
	Manitoba	\$0.4 billion	\$0.3 billion	\$0.7 billion
	Ontario	\$4.7 billion	\$4.1 billion	\$8.7 billion
* * * *	Québec	\$2.7 billion	\$3.0 billion	\$5.7 billion
	Atlantic Canada	\$0.8 billion	\$0.8 billion	\$1.6 billion
*	Canada	\$11.3 billion	\$10.1 billion	\$21.4 billion

Table 3 Tax Contributions Across Canada

Note that contributions may not add exactly to totals due to rounding.

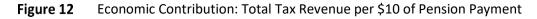
On average, for every \$10 of pension payments made to retirees, about \$4.37 of taxation revenue is supported. This arises through direct income taxation of the retirees and employees, consumption taxes on the goods they purchase, and corporate taxes on the businesses that people support. While the federal component of taxation revenue is fairly constant across the provinces (incomes are taxed at the same rate across the country), provincial differences in taxation policy give rise to varying ratios across the country,

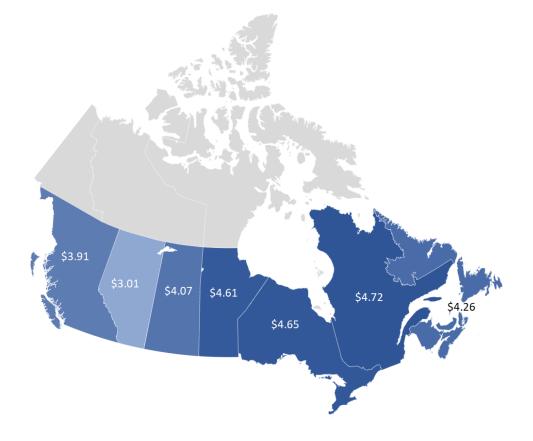
⁴ This analysis estimates government revenue from income, corporate, and consumption tax which are collected by the provincial and federal governments. It does not include municipal government revenue.



³ Details about the methodology employed to estimate the revenue from each type of tax are provided in Appendix B.

in addition to the differences arising from the levels of economic activity. For example, taxation revenue per \$10 of pension payments originating in Alberta, which has no provincial sales tax and lower personal income taxes, is 69% of the national average despite the GDP per \$10 of pension payments being 87% of the national average.

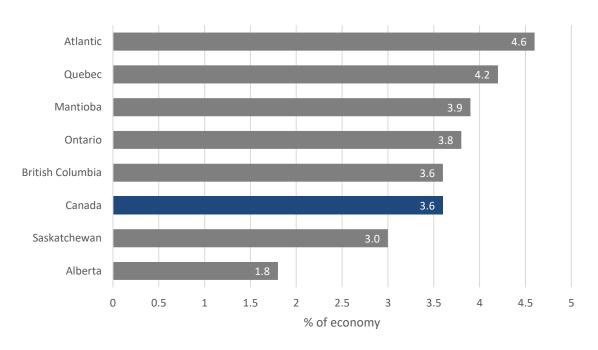


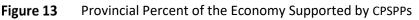




3.2 OBSERVATIONS: PROVINCIAL ECONOMIC BENEFITS

While CPSPP activities contribute significantly to the economy and support of jobs in Canada, the results vary across the provinces. This is due to demographic, economic and retired members' pension income differences between the provinces. What follows are a few select metrics that highlight the differences in the ways that each province depends upon the economic activity supported by CPSPPs.





Across the country, the percentage of the provincial economy supported by CPSPPs varies from a low of 1.8% in Alberta to a high of 4.6% in Atlantic Canada. These differences arise from several factors including the number of public sector retirees that live in a province, the industries which exist in each province, and the demographic characteristics of the province. For example, Atlantic Canada has a greater fraction of retirees in its population and an economy which is more focused on providing key essentials. This results in both larger retirement spending per person and a greater fraction of that spending remaining in the economy. In Alberta, which has fewer public sector retirees per capita along with larger resource and manufacturing sectors that are not directly supported by the spending of retirees or CPSPP employees, the percentage of the economy supported by CPSPPs is smaller.



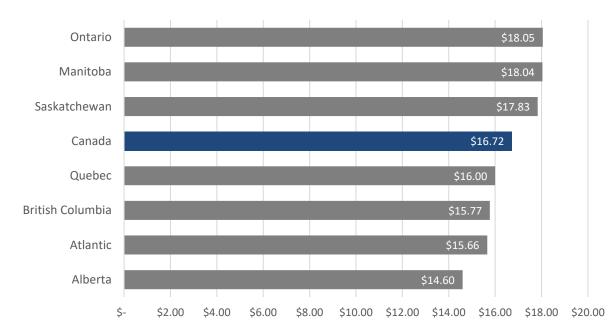


Figure 14Provincial GDP per \$10 of Pension Payment

Another way to examine the provincial GDP benefits is to look at them in terms of the pension payments made to public sector retirees. Nationally, \$16.72 of economic activity is supported for every \$10 of CPSPP payments made to retirees. There is still considerable variation across the country with Ontario having the highest GDP per \$10 of pension payments, and Alberta the lowest. These differences are primarily driven by the different mixes of consumer-supported industries found across the country, and the locations of the employees of CPSPPs.

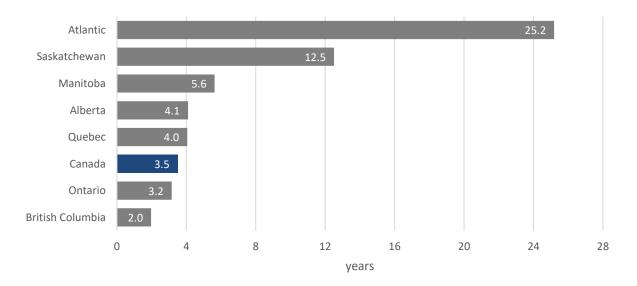
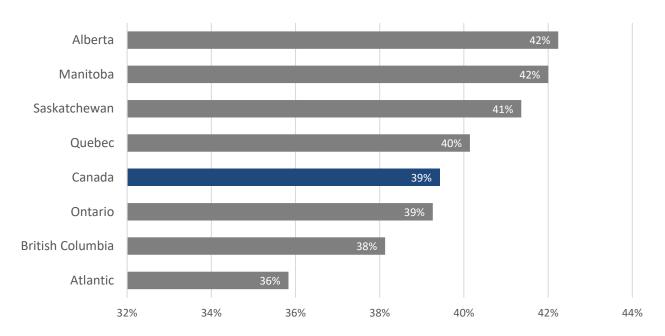


Figure 15 Provincial Equivalent Years of Job Creation to Emulate CPSPPs



Across the country, the number of jobs supported is equivalent to about 3.5 years of the average job creation rate over the past five years (excluding 2020). In other words, it would take the country 3.5 years to generate the same number of jobs supported by CPSPPs.

Each province varies in the number of jobs supported and historical employment growth. CPSPPs in Atlantic Canada contribute more than the national average to the provincial economy as there are more retirees as a percentage of the population. Given that Atlantic Canada has had a relatively low rate of recent job growth, the pension amounts paid in the province and the economic activity it produces support over 25 years of job growth. On the other end of the scale, in British Columbia, with its relatively strong job growth and mid-range contribution to the economy, CPSPPs support two years of job growth.





The number of jobs supported by CPSPPs that are held by people under the age of 35 years account for 39% of jobs in Canada. Across the country, the percentage of such jobs supported by CPSPPs varies from a low of 36% in Atlantic Canada to a high of 42% in Alberta. These differences arise from several factors including the industries which exist in each province and the demographic characteristics of the province.



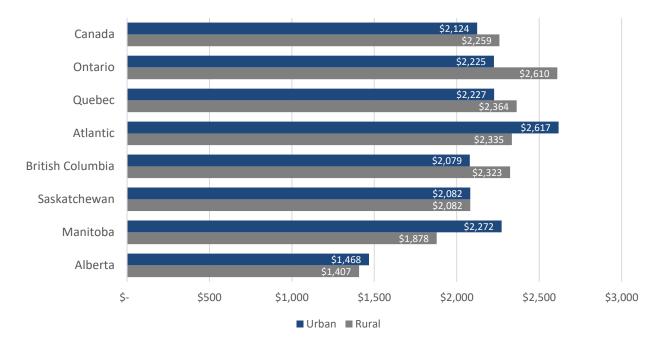


Figure 17 Rural GDP per Capita Relative to Urban GDP per Capita

In addition to the differences between provinces, the benefits of CPSPPs are distributed differently within each province. In particular, there are significant differences in how the benefits arise in urban and rural provinces. Nationally, the economic benefits are 6.4% greater in rural regions than in urban regions on a per capita basis. This is particularly pronounced in Ontario, British Columbia, and Quebec due to the relatively large number of retirees living outside of the main cities. These residents provide critical economic support to many smaller rural communities. In contrast, for Atlantic Canada and Manitoba, the benefits are greater, on a per capita basis, in more urban areas. This highlights the challenges that many small communities face in these provinces to maintain the economies of their rural communities.



3.3 ECONOMIC BENEFIT TABLES: CANADA AND ITS PROVINCES

Canada is made up of diverse provinces with different industries and demographic characteristics. This section provides the key characteristics of the economic contributions of CPSPPs activities for Canada as a whole, and each province.

	Table 4 Provincial Companison Across Rey Areas							
		**	Ⅲ 参 [★]			* * * *		*
	British Columbia	Alberta	Saskatchewan	Manitoba	Ontario	Québec	Atlantic Canada	Canada
Total Members	0.69 M	0.48 M	0.19 M	0.22 M	1.89 M	1.37 M	0.41 M	5.26 M
Retired Members	0.27 M	0.17 M	0.05 M	0.06 M	0.71 M	0.46 M	0.14 M	1.85 M
Annual Pension Payments	\$7.0 B	\$4.4 B	\$1.34 B	\$1.6 B	\$18.8 B	\$12.1 B	\$3.7 B	\$49.0 B
GDP	\$11.1 B	\$6.4 B	\$2.5 B	\$2.9 B	\$33.9 B	\$19.4 B	\$5.8 B	\$82.0 B
%GDP	3.6%	1.8%	3.0%	3.9%	3.8%	4.2%	4.6%	3.6%
Households Supported	110,600	56,000	23,800	30,300	362,500	227,000	67,000	877,100
Children Supported	96,200	55,500	22,300	29,300	362,400	177,800	54,400	797,900
Jobs	110,600	56,000	23,800	30,300	362,500	227,000	67,000	877,100
Under 35	38%	42%	41%	42%	39%	40%	36%	39%
Wages	\$4.4 B	\$2.4 B	\$0.8 B	\$1.1 B	\$14.4 B	\$7.6 B	\$2.3 B	\$33.1 B
Businesses Supported	7,000	3,500	1,800	1,800	22,200	14,600	4,600	55,500
Under 10 employees	5,000	2,500	1,300	1,300	16,000	10,400	3,300	39,800
10-100 employees	1,900	900	400	500	5,800	4,000	1,200	14,700
Tax revenue supported	\$2.8 B	\$1.3B	\$0.6 B	\$0.7 B	\$8.7 B	\$5.7 B	\$1.6 B	\$21.4 B

 Table 4
 Provincial Comparison Across Key Areas



4.0 CONCLUSIONS

Across Canada, through its 5.26 million members and operations, CPSPPs support more than 877,100 jobs and over \$82 billion in GDP. Through the economic activity supported by spending their pension income, retired CPSPP members alone support more than 794,000 jobs and \$74 billion in GDP (90.5% of the total contribution of CPSPP). The economic activity supported by CPSPPs generates revenue for the provincial and federal governments through personal, corporate, and consumption taxes, amounting to almost \$21.4 billion annually.

4.1 KEY TAKEAWAYS

1	Size and strength	With over five million active and retired members spread around Canada, this is slightly more than the population of British Columbia.
2	Gender impact	Almost two thirds of CPSPP active and retired members are female.
3 Higher pensic contribution		CPSPP members typically invest 8% of their salary (member contributions) on average and, when combined with employer contributions, this amounts to \$43 billion annually.
4	Stable annual returns	Investing for the long-term, CPSPPs have provided \$92 billion in returns on average over the last five years from \$1.27 trillion of assets.
5	Economic contribution	The economic impact each year, mainly from retiree spending, is 3.6% of GDP or \$82 billion.
6	Small business impact	As retirees spend their income, the direct and indirect impacts support the equivalent of 55,500 businesses, 72% of which employ less than ten people.
7	Employment contribution	With 877,100 jobs supported by public pension activities, it would take the country 3.5 years to generate the same number of jobs.
8	Jobs across all ages	Although pensions are associated with people over 65, 39% of the jobs supported go to people aged under 35.
9	Broad reach	Four million people, or 11% of Canadians, benefit in some way through receiving retirement income, working in businesses, or being financially supported in their households.
10	Rural impact	The economic contribution to rural communities is 6.4% more on a per capita basis than urban centres from CPSPPs activities.
11	Tax revenue	CPSPPs' activities generate \$21.4 billion in tax revenue each year, which would cover the entire annual budget of Manitoba's government.



A. PROVINCIAL BENEFIT SUMMARIES

The size of the contribution of Canadian CPSPPs and the main industries benefitting from the contribution differ between provinces depending on each province's demographic and industry base. The following summaries highlight the key benefits of CPSPP in each province. The provinces are ranked by extent of economic benefit received, from the largest to the smallest. The Atlantic Provinces are the sum of New Brunswick, Newfoundland and Labrador, Nova Scotia, and Prince Edward Island.

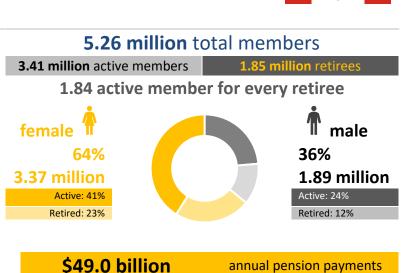


CANADA



There are about 3.41 million active members and 1.85 million retired members, with 1.84 active members per retired member. Of the 5.26 million public pension plan members, almost two thirds are female.

Total annual Canadian CPSPP payments amount to \$49.0 billion, a significant source of retirement income in the country (40%). These payments have important direct, indirect, and induced contributions to the economy.



Economic

Economic activity supported by Canadian CPSPP activity amounts to \$82.0 billion which represents about 3.6% of the economy. \$43.5 billion of this is activity is due to the way the pension payments and CPSPP employee wages are spent, with the balance of \$38.5 billion driven from indirect and induced economic activity. For every \$10 of pension payment, \$16.72 of economic activity is generated. Given the residential profile of the retirees, an important contribution is to rural economies which benefit by more than 6.4% more than urban economies when considered on a per capita basis.

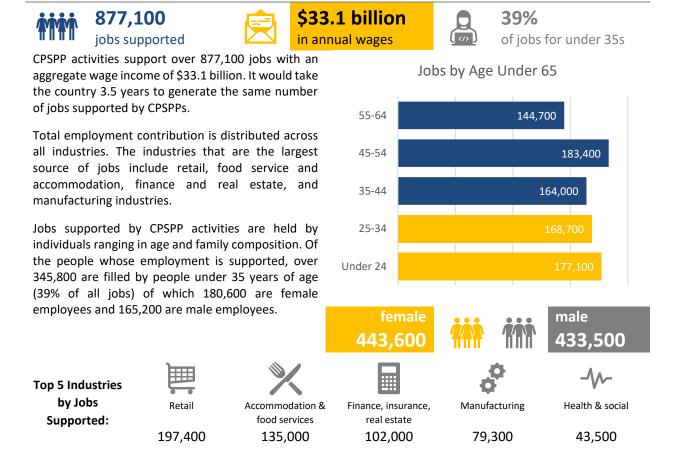
\$10 = \$16.72 pension paid economic benefit			
\$82.0 billion	3.6%		
in GDP	of the economy		
53% direct/47% induced	6.4% greater contribution per capita to rural		
\$2,124	\$2,259		
urban per capita	rural per capita		

Households

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877,100 households	2,167,100 people	797,900 children	

The employment supported by CPSPP activities contributed to the wages of almost 877,100 households which included 333,400 households with children, 82,400 of which are lone parent households. The number of people that CPSPP activities affect beyond the 5.26 million active and retired members is vast, amounting to 2.17 million Canadians which includes 797,900 children.





Businesses

Jobs

Economic benefits include over \$14.8 billion of private investment in response to demand. Over 55,500 businesses benefit from the economic activity, of which 39,800 are small businesses with fewer than 10 employees.

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\$14.8 billion	55,500	39,800	14,700
investment	businesses	under 10 employees	10-100 employees

Тах

Economic contribution generates about \$21.4 billion of taxation revenues for government of which \$11.3 billion is federal government and	\$4.37 tax revenue for every \$10 paid to retired			Sender.
\$10.1 billion is provincial government taxation revenues.		Total	Federal	Provincial
		\$21.4	\$11.3	\$10.1
	member	billion	billion	billion

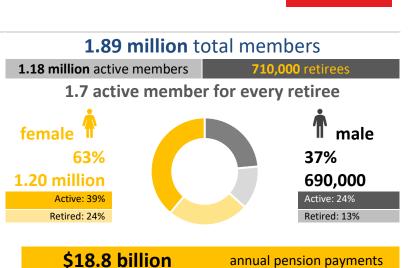


ONTARIO



There are about 1.18 million active members and 710,000 pension recipients, with 1.7 active members per person receiving a pension. Of the 1.89 million public pension plan members, 63% are female.

Total CPSPP annual pension payments amount to \$18.8 billion. These payments have important direct, indirect, and induced contributions to the economy.



Economic

Economic activity supported by CPSPP activity amounts to \$33.9 billion which represents about 3.8% of the economy. \$17.8 billion of this is activity is due to the way the pension payments and CPSPP employee wages are spent, with the balance of \$16.1 billion driven from indirect and induced economic activity. For every \$10 of pension payments paid, \$18.05 of economic activity is supported. Given the residential profile of the sectors' retirees, an important contribution is to rural economies which benefit by more than 17.3% more than urban economies when considered on a per capita basis.

\$10 = \$18.05 pension paid economic benefit				
\$33.9 billion	3.8%			
in GDP	of the economy			
53% direct/47% induced	17.3% greater contribution per capita to rural			
\$2,225	\$2,610			
urban per capita	rural per capita			

Households



Over 362,500 households are positively impacted by the jobs supported. Of those, over 144,700 are households with children, of which 35,200 are lone parent households. The number of people that CPSPP activities affect beyond active and retired members amounts to 933,600 Ontarians including 362,400 children.





362,500 jobs supported



\$14.4 billion

in annual wages

39% of jobs for under 35s

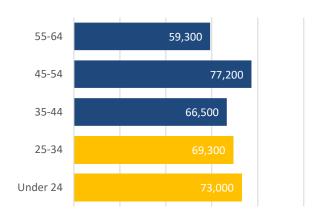
CPSPP activities support over 362,500 full-time and part-time jobs with an aggregate wage income of \$14.4 billion. It would take the province 3.2 years to generate the same number of jobs supported by CPSPPs.

Employment benefits are felt across all industries. The largest sources of jobs include retail, food service and accommodation, finance and real estate, and manufacturing industries.

Jobs supported by CPSPP activities are held by individuals ranging in age and family composition. Of the people whose employment is supported, over 142,300 are filled by people under 35 years of age (39.3% of all jobs), and of which 73,900 are female employees and 68,400 are male employees.

Top 5 Industries	
by Jobs	
Supported:	





Jobs by Age Under 65

male 183.200 179.300 Finance, insurance, Manufacturing Heath & social real estate 29,200 47,600 17,500

Businesses

Economic benefits include over \$6.1 billion of private investment in response to demand. Over 22,200 businesses benefit from the economic activity, of which 5,800 are small businesses with fewer than 10 employees.

	E	*†•	*** ***** ******
\$6.1 billion	22,200	16,000	5,800
private investment	businesses	under 10 employees	10-100 employees

Tax

The economic contribution supports about \$8.7 billion of taxation revenues for government of which \$4.7 billion is federal government and \$4.1 billion is provincial government taxation revenues.	\$4.65 tax revenue for every \$10 paid to retired	Total \$8.7	Federal \$4.7	Provincial \$4.1
	member	billion	billion	billion

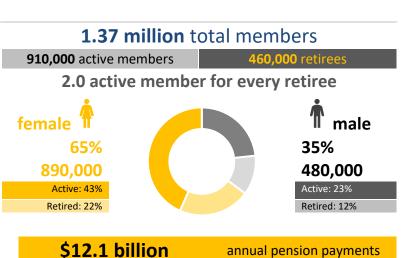


QUEBEC

Members

There are about 910,000 active members and 460,000 pension recipients, with 2.0 active members per person receiving a pension. Of the 1.37 million public pension plan members, 65% are female.

Total CPSPP annual pension payments amount to \$12.1 billion, a significant source of private retirement in the province. These payments have important direct, indirect, and induced contributions to the economy.



Economic

Economic activity supported by CPSPP activity amounts to \$19.4 billion which represents about 4.2% of the economy. \$10.5 billion of this is activity is due to the way the pension payments and CPSPP employee wages are spent, with the balance of \$8.8 billion driven from indirect and induced economic activity. For every \$10 of pension payments paid, \$16.00 of economic activity is supported. Given the residential profile of the sectors' retirees, an important contribution is to rural economies which benefit by more than 6.1% more than urban economies when considered on a per capita basis.

\$10 : pension paid	\$16.00 economic benefit
\$19.4 billion	4.2%
in GDP	of the economy
54% direct/ 46% induced	6.1% greater contribution per capita to rural
\$2,227	\$2,364
urban per capita	rural per capita

Households



Over 227,000 households are positively impacted by the jobs supported. Of those, over 84,000 are households with children, 21,800 of which lone parent households. The number of people that CPSPP activities affect beyond active and retired members amounts to 524,400 residents including 177,800 children.



Jobs



CPSPP activities support over 227,000 full-time and part-time jobs with an aggregate wage income of \$7.6 billion. It would take the province 4.0 years to generate the same number of jobs supported by CPSPPs.

The employment benefits are felt across all industries. The industries that are the largest source of jobs include retail, food service and accommodation, finance and real estate, and manufacturing industries.

The jobs supported by CPSPP activities are held by individuals ranging in age and family composition. Of the people whose employment is supported, over 91,100 are filled by people under 35 years of age (40% of all jobs), of which 47,400 are female employees and 43,700 are male employees.





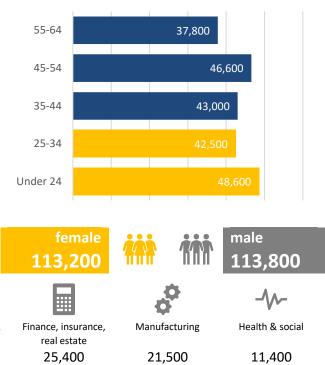
Accommodation & food services 36,100





Jobs by Age Under 65

of jobs for under 35s



Businesses

Economic benefits include over \$3.5 billion of private investment in response to demand. Over 14,600 businesses benefit from the economic activity, of which 10,400 are small businesses with fewer than 10 employees.

	留	₽₽₽	*** ***** ******
\$3.5 billion	14,600	10,400	4000
private investment	businesses	under 10 employees	10-100 employees

The economic contribution supports about \$5.7 billion of taxation revenues for government of	\$4.72			
which \$2.7 billion is federal government and \$3.0 billion is provincial government taxation revenues.	tax revenue for every \$10 paid to retired	Total \$5.7	Federal \$2.7	Provincial \$3.0
	member	billion	billion	billion



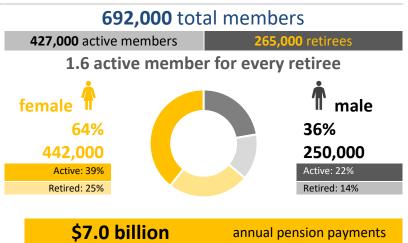
BRITISH COLUMBIA



Members

There are about 427,000 active members and 265,000 pension recipients, with 1.6 active members per person receiving a pension. Of the 692,000 CPSPP members, almost two thirds are female employees.

Total CPSPP annual pension payments amount to \$7.0 billion, a significant source of private retirement in the province. These payments have important direct, indirect, and induced contributions to the economy.



Economic

Economic activity supported by CPSPP activity amounts to \$11.1 billion which represents about 3.6% of the economy. \$5.8 billion of this is activity is due to the way the pension payments and CPSPP employee wages are spent, with the balance of \$5.3 billion driven from indirect and induced economic activity. For every \$10 of pension payments paid, \$15.77 of economic activity is supported. Given the residential profile of the sectors' retirees, an important contribution is to rural economies which benefit by more than 11.8% more than urban economies when considered on a per capita basis.

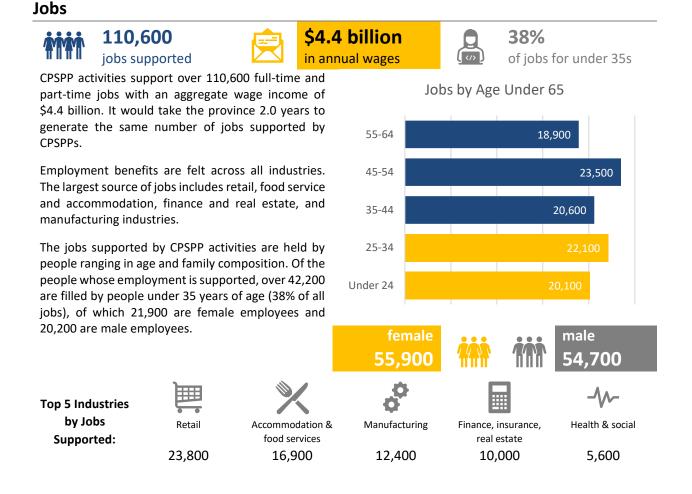
\$10 pension paid	\$15.77 economic benefit
\$11.1 billion	3.6%
in GDP	of the economy
52% direct/ 48% induced	11.8% greater contribution per capita to rural
\$ 2, 079	\$2,323
urban per capita	rural per capita

Households



Over 110,600 households are positively impacted by the jobs supported. Of those, over 37,500 are households with children, 900 of which are lone parent households. The number of people that CPSPP activities affect beyond active and retired members amounts to 267,900 people including 96,200 children.





The economic benefits include over \$2.0 billion of private investment in response to demand. Over 7,000 businesses benefit from the economic activity, of which 5,000 are small businesses with fewer than 10 employees.

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\$2.0 billion	7,000	5,000	1,900
private investment	businesses	under 10 employees	10-100 employees

The economic contribution supports about \$2.9				
The economic contribution supports about \$2.8	\$3.91	And Part of Con-		A PACIFIC
billion of taxation revenues for government of	JJ.JT	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	5 1 K	A STATE
which \$1.5 billion is federal government and \$1.2	tax revenue			
billion is provincial government taxation	for every \$10	Total	Federal	Provincial
revenues.	paid to retired	\$2.8	\$1.5	\$1.2
	member	billion	billion	billion

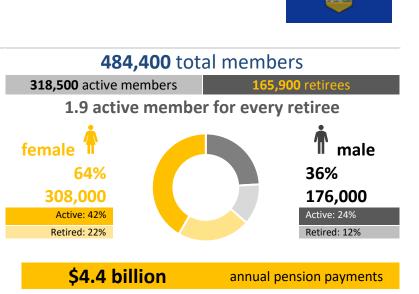


ALBERTA



There are about 318,500 active members and 165,900 pension recipients, with 1.9 active members per person receiving a pension. Of the 480,000 public pension plan members, 64% are female.

Total CPSPP annual pension payments amount to \$4.4 billion, a significant source of private retirement in the province. These payments have important direct, indirect, and induced contributions to the economy.



Economic

Economic activity supported by CPSPP activity amounts to \$6.4 billion which represents about 1.8% of the economy. \$3.4 billion of this is activity is due to the way the pension payments and CPSPP employee wages are spent, with the balance of \$3.0 billion driven from indirect and induced economic activity. For every \$10 of pension payments paid, \$14.60 of economic activity is supported. Given the residential profile of the sectors' retirees, an important contribution is to urban economies which benefit by more than 1.8% more than urban economies when considered on a per capita basis.

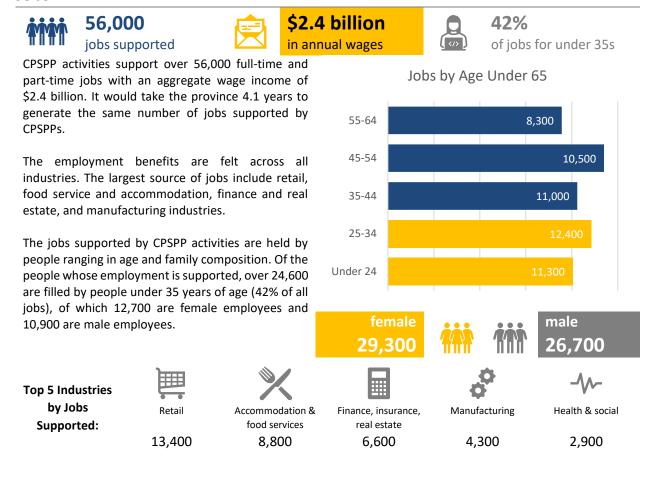
\$10 : pension paid	= \$14.60 economic benefit
\$6.4 billion	1.8%
in GDP	of the economy
53% direct/ 47% induced	4.2% greater contribution per capita to urban
\$1,468	\$1,407
urban per capita	rural per capita

Households



Over 56,000 households are positively impacted by the jobs supported. Of those, over 55,500 are households with children, 4,000 of which are lone parent households. The number of people that CPSPP activities affect beyond active and retired members amounts to 145,000 residents including 55,500 children.





Jobs

The economic benefits include over \$1.2 billion of private investment in response to demand. Over 3,500 businesses benefit from the economic activity, of which 2,500 are small businesses with fewer than 10 employees.

• • •	留	前意	*** ***** *****
\$1.2 billion	3,500	2,500	900
private investment	businesses	under 10 employees	10-100 employees

	\$3.01		*	
which \$0.9 billion is federal government and \$0.4 billion is provincial government taxation revenues.	tax revenue for every \$10 paid to retired member	Total \$1.3 billion	Federal \$0.9 billion	Provincial \$0.4 billion



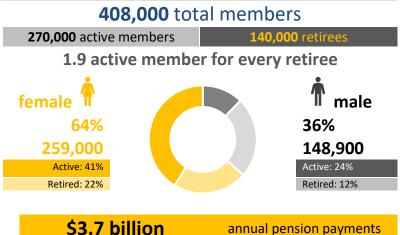
ATLANTIC CANADA



Members

There are about 267,000 active members and 140,800 pension recipients, with 1.9 active members per person receiving a pension. Of the 410,000 public pension plan members, almost two thirds are female.

Total CPSPP annual pension payments amount to \$3.7 billion, a significant source of private retirement in the province. These payments have important direct, indirect, and induced contributions to the economy.



Economic

Economic activity supported by CPSPP activity amounts to \$5.8 billion which represents about 4.6% of the economy. \$3.1 billion of this is activity is due to the way the pension payments and CPSPP employee wages are spent, with the balance of \$2.7 billion driven from indirect and induced economic activity. For every \$10 of pension payments paid, \$15.66 of economic activity is supported. Given the residential profile of the sectors' retirees, an important contribution is to urban economies which benefit by 12.1% more than rural economies when considered on a per capita basis.

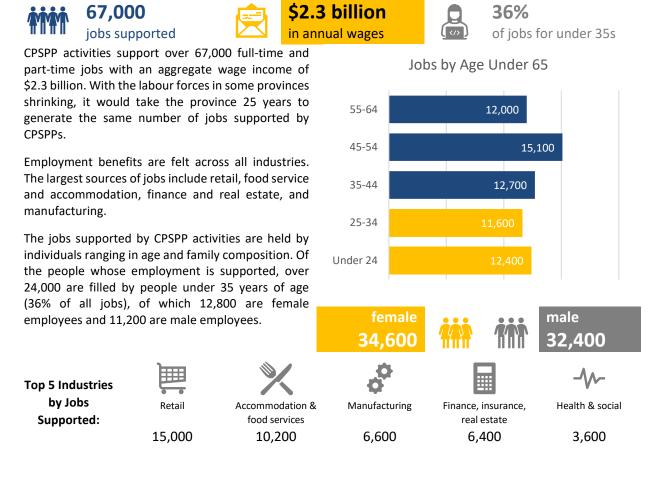
\$10 pension paid	\$15.66 economic benefit
\$5.8 billion	4.6%
in GDP	of the economy
54% direct/ 46% induced	10.8% greater contribution per capita to urban
\$2,617	\$2 <i>,</i> 335
urban per capita	rural per capita

Households



Over 67,000 households are positively impacted by the jobs supported. Of those, over 26,000 are households with children, 7,300 of which are lone parent households. The number of people that CPSPP activities affect beyond active and retired members amounts to 159,700 residents including 54,400 children.





Jobs

The economic benefits include over \$1.1 billion of private investment in response to demand. Over 4,600 businesses benefit from the economic activity, of which 3,300 are small businesses with fewer than 10 employees.

• • •	四	≜ nt.	
\$1.1 billion	4,600	3,300	1,200
	businesses	under 10 employees	10-100 employees

The economic contribution supports about \$1.6 billion of taxation revenues for government of which \$0.8 billion is federal government and \$0.8 billion is provincial government taxation revenues.	\$4.26 tax revenue for every \$10 paid to retired	Total \$1.6	Federal \$0.8	Provincial \$0.8
Tevenues:	paid to retired	\$1.6	Ş0.8	Ş0.8
	member	billion	billion	billion

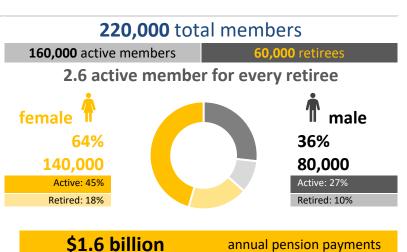


MANITOBA



There are about 160,000 active members and 60,000 pension recipients, with 2.6 active members per person receiving a pension.

Of the 220,000 public pension plan members, 64% are female. Total CPSPP annual pension payments amount to \$1.6 billion, a significant source of private retirement in the province. These payments have important direct, indirect, and induced contributions to the economy.



Economic

Economic activity supported by CPSPP activity amounts to \$2.9 billion which represents about 3.9% of the economy. \$1.5 billion of this is activity is due to the way the pension payments and CPSPP employee wages are spent, with the balance of \$1.3 billion driven from indirect and induced economic activity. For every \$10 of pension payments paid, \$18.04 of economic activity is supported.

Given the residential profile of the sectors' retirees, an important contribution is to urban economies which benefit by more than 21.0% more than urban economies when considered on a per capita basis.

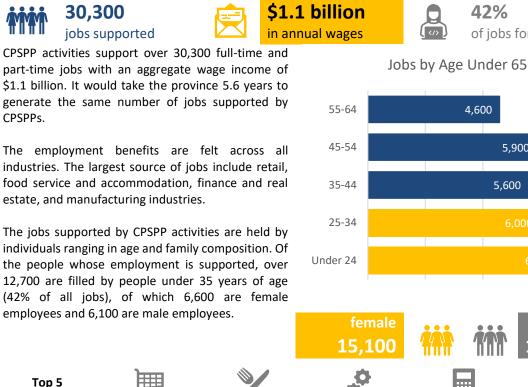
\$10 : pension paid	= \$18.04 economic benefit
\$2.9 billion	3.9%
in GDP	of the economy
53% direct/ 47% induced	17.0% greater contribution per capita to urban
\$2,272	\$1,878
urban per capita	rural per capita

Households



Over 30,300 households are positively impacted by the jobs supported. Of those, over 11,700 are households with children, 2,900 of which are lone parent households. The number of people that CPSPP activities affect beyond active and retired members amounts to 76,700 residents including 29,300 children.

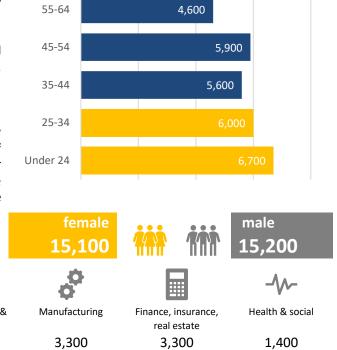




Industries by Retail Jobs Supported: 6,000

Accommodation & food services 5,300

42% of jobs for under 35s



Businesses

Jobs

The economic benefits include over \$0.5 billion of private investment in response to demand. Over 1,800 businesses benefit from the economic activity, of which 1,300 are small businesses with fewer than 10 employees.

	四	常情选	*** ***** ******
\$0.5 billion	1,800	1,300	500
private investment	businesses	under 10 employees	10-100 employees

Tax

The economic contribution supports about \$0.7 \$4.61 billion of taxation revenues for government of which \$0.4 billion is federal government and \$0.3 tax revenue Provincial Total Federal billion is provincial government taxation for every \$10 revenues. \$0.7 \$0.4 \$0.3 paid to retired member billion billion billion



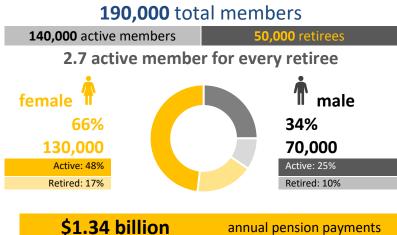
SASKATCHEWAN



Members

There are about 140,000 active members and 50,000 pension recipients, with 2.7 active members per person receiving a pension. Of the 190,000 public pension plan members, 66% are female.

Total CPSPP annual pension payments amount to \$1.4 billion, a significant source of private retirement in the province. These payments have important direct, indirect, and induced contributions to the economy.



Economic

Economic activity supported by CPSPP activity amounts to \$2.5 billion which represents about 3.0% of the economy. \$1.3 billion of this is activity is due to the way the pension payments and CPSPP employee wages are spent, with the balance of \$1.2 billion driven from indirect and induced economic activity. For every \$10 of pension payments paid, \$17.83 of economic activity is supported. Unlike other provinces, there is no significant distinction between urban economies and rural economies when it comes to the contribution of GDP per capita.

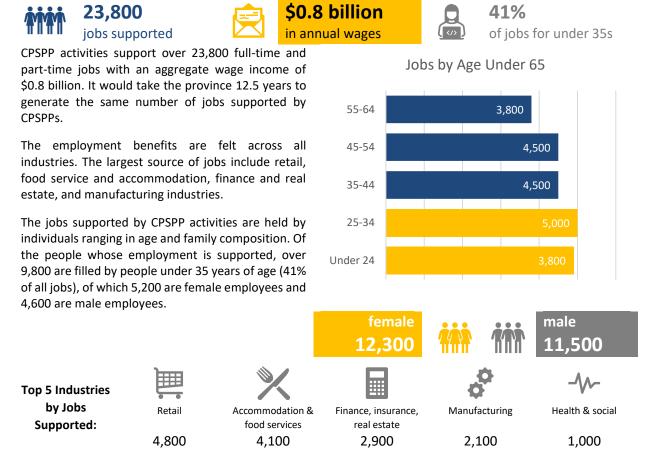
\$10 :	\$17.83
pension paid	economic benefit
\$2.5 billion	3.0%
in GDP	of the economy
52% direct/ 48% induced	Equal contribution for rural and urban per capita
\$2,082	\$2,082
urban per capita	rural per capita

Households



Over 23,800 households are positively impacted by the jobs supported. Of those, over 9,100 are households with children, 2,100 of which are lone parent households. The number of people that CPSPP activities affect beyond active and retired members amounts to 59,800 residents including 22,300 children.





Jobs

The economic benefits include over \$0.4 billion of private investment in response to demand. Over 1,800 businesses benefit from the economic activity, of which 1,300 are small businesses with fewer than 10 employees.

m

	田	††.	*** ***** ******
\$0.4 billion	1,800	1,300	400
private investment	businesses	under 10 employees	10-100 employees

Тах

The economic contribution supports about \$0.56 billion of taxation revenues for government of which \$0.3 billion is federal government and \$0.3 billion is provincial government taxation revenues.

\$4.07			
ax revenue or every \$10 paid to retired nember	Total \$0.6 billion	Federal \$0.3 billion	Provincial \$0.3 billion



B. METHODOLOGY

B.1. ECONOMIC CONTRIBUTION ANALYSIS

Economic contributions arise from three main effects by economic convention:

Direct Effects

Include all economic activity directly attributable to the operations of public pension plans, as well as the expenditures of public pension plans retirement benefits by members. These include the direct spending of retirement benefits and of CPSPP employees' wages, as well as the value-added output of public pension plans investments in Canada.

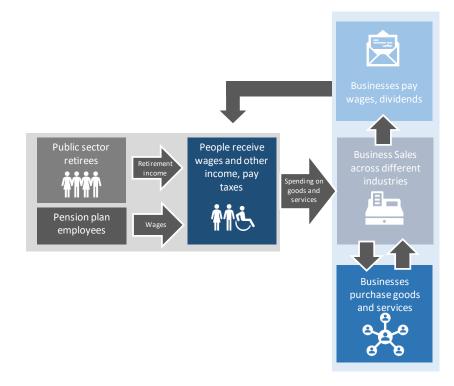
Indirect Effects

Include all the economic activity supported by business-to-business interactions within the supply chain. They include spending on the goods and services required to conduct business by public pension plans and its investments and the business-to-business transactions in local communities where public pension plans members spend their retirement benefits. The latter would include additional wages paid to salespeople working in shops where families spend their retirement benefits and the inputs required to produce and supply the additional goods bought by these families.

Induced Effects

Include all economic activity supported by the spending of wages earned by workers whose employment is supported by public pension plans activity. For example, employees of public pension plan suppliers and employees of local businesses where retirement benefits are spent. Induced effects also include expenditures on increased capacity or the replacement of depreciating capital stock that result from reinvesting business profits. These purchases or activities can lead to further hiring, resulting in income and tax revenues.







B.2. COMPUTATIONAL APPROACH

Data provided by Statistics Canada and combined with CANCEA's agent-based modelling data attributions are used as inputs for this analysis. Where data was not available, e.g. the number of employees hired by certain public pension plans assets, CANCEA generated estimates using Canada-specific industry averages.

This analysis was conducted through an agent-based model developed by CANCEA and housed in its statistical analysis platform. This model simulates Canada's economy by tracking how representative individuals, firms, and governments interact with one another, given a set of characteristics and behavioural rules. Individuals are organized into households and work for firms. Individuals conduct financial transactions with firms, firms pay wages to individuals, and firms transact with one another. The government collects taxes from households and firms. The model is calibrated and regularly updated using primarily Statistics Canada data and other relevant publicly-available data.

For this analysis, Statistics Canada data was used to give certain individuals and firms in the model the characteristics of CPSPPs' members who receive retirement income (e.g. location and income) and firms the characteristics of CPSPPs and their investments (e.g. location, industry, number of employees). The economic activity generated by these "agents" is then tracked to see how it affects employment and economic activity in the system as a whole, i.e. the whole of Canada's economy. This activity generates direct, indirect, and induced effects in the system, which are added up to obtain the total effect.

To calculate **direct effects**, the economic value of household expenditures by industry are estimated based on household spending patterns (see Figure 20) and total income, whether from CPSPPs retirement income payments or from the wages of CPSPP employees.

Indirect effects are the economic activity generated by CPSPPs, their retired members, and their investments in other industries through business-to-business interactions. The inputs used by CPSPPs, public sector pension plans' assets, and those required to supply the goods and services purchased by retired members (including the labour required to supply these inputs) are calculated using Statistics Canada symmetric input/output and multiplier tables. Jobs, i.e. labour, are filled in geographical proximity to the source of the original expenditure based on the geographical distribution of jobs by industry. Wages, which generate additional economic activity called **induced effects**, are calculated using industry averages (Figure 21). The resulting government revenue from income, consumption, and corporate taxes are then estimated using current tax rates.





Figure 19 Canada Economic Multiplier Factors by Industry



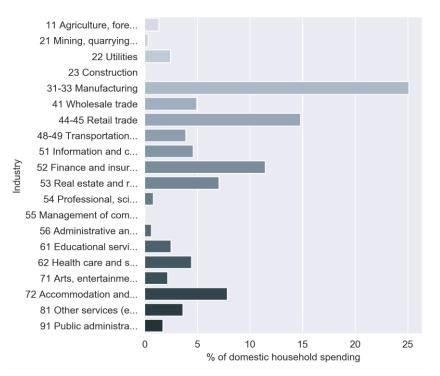
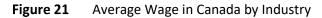
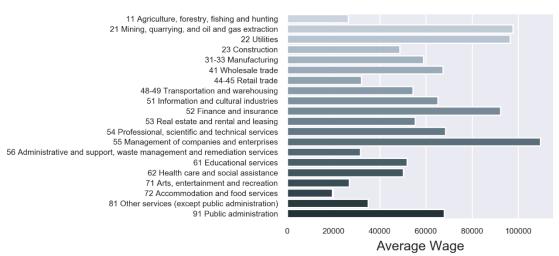


Figure 20 Aggregate Household Spending by Industry (basic prices)







C. LIST OF INDUSTRIES

This report follows the North American Industry Classification System (NAICS). Table 5 below lists all industries by full name and NAICS code.

NAICS Code	Industry
11	Agriculture, forestry, fishing and hunting
21	Mining, quarrying, and oil and gas extraction
22	Utilities
23	Construction
31-33	Manufacturing
41	Wholesale trade
44-45	Retail trade
48-49	Transportation and warehousing
51	Information and cultural industries
52	Finance and insurance
53	Real estate and rental and leasing
54	Professional, scientific and technical services
55	Management of companies and enterprises
56	Administrative and support, waste management and remediation services
61	Educational services
62	Health care and social assistance
71	Arts, entertainment and recreation
72	Accommodation and food services
81	Other services (except public administration)
91	Public administration

Table 5Full Industry List



D.DATA SOURCES

Statistics Canada tables used in this analysis include:

- 11-10-0012 Distribution of income by census family type
- 11-10-0019 Economic dependency profile of census families by family type and source of income
- 11-10-0033 Economic dependency profile by income and sex
- 11-10-0223 Household spending by income quintile,
- 11-10-0224 Household spending by household type,
- 17-10-0139 Population estimates, July 1, by census division, 2016 boundaries
- **36-10-0001** Symmetric input-output tables, detail level
- 36-10-0013 Input-output multipliers, summary level
- 36-10-0084 Symmetric input-output tables, summary level
- 36-10-0113 Input-output multipliers, provincial and territorial, summary level
- 36-10-0221 Gross domestic product, income-based, provincial and territorial, annual
- 36-10-0222 Gross domestic product, expenditure-based, provincial and territorial, annual
- 36-10-0438 Supply and use tables, summary level, provincial and territorial
- **36-10-0450** Revenue, expenditure and budgetary balance General governments, provincial and territorial economic account
- 36-10-0478 Supply and use tables, detail level, provincial and territorial (x 1,000)
- 36-10-0587 Distributions of household economic accounts, income, consumption and saving, by characteristic
- 36-10-0595 Input-output multipliers, provincial and territorial, detail level
- **11-10-0062** Registered pension plans (RPPs), active members and market value of assets by special retirement conditions
- **11-10-0063** Registered pension plans (RPPs), active members and market value of assets by age and service condition for special retirement
- 11-10-0076 Trusteed pension funds, value of assets by sector, quarterly
- 11-10-0077 Trusteed pension funds, value of assets by foreign and domestic holdings, quarterly
- 11-10-0079 Trusteed pension funds, revenues, expenditures and net income, quarterly
- 11-10-0094 Registered pension plans (RPPs), members and market value of assets, by jurisdiction of plan registration
- 11-10-0095 Registered Pension Plans (RPPs), active members and market value of assets by size of plan
- **11-10-0096** Registered Pension Plans (RPPs), active members and market value of assets by North American Industry Classification System (NAICS)
- 11-10-0133 Registered pension plan (RPP) active members by area of employment
- 98-400-X2016120 Income Sources and Taxes (34) and Income Statistics (5A) for the Population Aged 15 Years and Over in Private Households of Canada, Provinces and Territories, Census Divisions and Census Subdivisions, 2016 Census 25% Sample Data
- 98-400-X2016149 Family MBM Low-income Status (5), Economic Family Structure (9), Family Size of Economic Family (5), Ages of Economic Family Members (18) and Number of Earners in the Economic Family (6) for Economic Families in Private Households of Canada, Provinces and Territories, Census Metropolitan Areas and Census Agglomerations, 2016 Census 25% Sample Data
- 98-400-X2016227 Age of Primary Household Maintainer (9), Tenure (4), Structural Type of Dwelling (10) and Household Type Including Census Family Structure (9) for Private Households of Canada, Provinces and Territories, Census Divisions and Census Subdivisions, 2016 Census 25% Sample Data



- **98-400-X2016292** Industry North American Industry Classification System (NAICS) 2012 (427A), Class of Worker (7A), Labour Force Status (3), Age (13A) and Sex (3) for the Labour Force Aged 15 Years and Over in Private Households of Canada, Provinces and Territories and Census Divisions, 2016 Census 25% Sample Data
- 98-400-X2016358 Industry North American Industry Classification System (NAICS) 2012 (425), Employment Income Statistics (3), Highest Certificate, Diploma or Degree (7), Immigrant Status and Period of Immigration (10), Work Activity During the Reference Year (4), Age (5A) and Sex (3) for the Population Aged 15 Years and Over Who Worked in 2015 and Reported Employment Income in 2015, in Private Households of Canada, Provinces and Territories and Census Metropolitan Areas, 2016 Census 25% Sample Data
- **98-400-X2016390** Census Family Status and Household Living Arrangements (13), Household Type of Person (9), Age (12) and Sex (3) for the Population in Private Households of Canada, Provinces and Territories, Census Metropolitan Areas and Census Agglomerations, 2016 and 2011 Census 100% data
- Census Profile 2016 (Census Divisions)



