The Conference Board of Canada

The Funds Industry in Canada

Economic Footprint Assessment

Presented to:
The Investment Funds Institute of Canada

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Assessing the economic footprint of the funds industry in Canada

Executive summary

At a glance

- Not only does the investment funds industry help Canadians save for the future, it is also an important contributor to Canada's economy.
- The total economic footprint of the investment funds industry was C$37.1 billion in GDP in Canada in 2018.
- The investment funds industry directly employed 81,000 people (full-time equivalent) and supported 260,000 jobs in the wider economy.
- The industry pays well compared with other industries, and the jobs are not just in financial centres but in provinces and communities across the country.

As Canada's population has aged and its economy has transformed over the past several decades, Canadians have increasingly come to rely on investment funds in order to meet their savings goals. According to data from the Investment Funds Institute of Canada, Canadian fund management firms held more than $1.7 trillion of Canadians' savings in the form of mutual funds and exchange-traded funds (ETFs) in 2018.

The investment funds industry is not just a means by which Canadians can achieve their financial goals; it is a major contributor to Canada's economy. Canada's fund management firms employ financial advisors, fund managers, and other support staff in communities across the country. The industry also purchases business services and goods from other Canadian businesses. This report estimates the funds industry's economic footprint and provides data on the amount of money it spends on goods and services, the number of jobs it supports, and the revenues that governments earn as a result of its activities.

The direct gross domestic product produced by the funds industry in Canada in 2018 was $9.7 billion. The industry paid $8.3 billion in wages, salaries, and other compensation to its 81,000 full-time equivalent employees and was responsible for directly providing $3.7 billion in revenues to governments at all levels.

The industry's overall economic footprint—the sum of its direct, indirect, and induced economic activity—supports 260,000 full-time equivalent jobs, adds $37.1 billion to Canada's GDP, and supports $7.3 billion in government revenues. It is important to note that these figures are only for Canada; if we included the industry's global supply chain, its impact would naturally be larger.

In terms of economic activity, the funds industry is comparable in size to the aerospace manufacturing industry or the petroleum refining industry. In terms of employment, the funds industry is slightly larger than the air transportation industry.

Over the past 10 years, the industry has grown much faster than the Canadian average. Its GDP growth outstripped the rest of the economy by a considerable margin between 2008 and 2018. Productivity was up, as was employment, and labour income in the sector grew nearly twice as fast as in the rest of the economy.

The results of this research show that the funds industry contributes significantly to Canada's economy. The total economic footprint of the funds industry—directly, through its supply chain, and through induced effects—accounted for 1.7 per cent of total GDP in Canada in 2018. Particularly in a globalized world where many traditional sources of economic activity are disappearing or leaving for other countries, the economic importance of a Canadian-based funds industry should not be understated.

Introduction

The investment funds industry is the portion of our financial sector devoted to selling mutual funds and exchange-traded funds (ETFs) to Canadians and to managing these funds.

The funds industry in Canada is critical to many Canadians who rely on financial advisors to provide them with accurate investment and savings advice. Importantly, Canadians are using these services at much higher rates than in the past, concurrent with an aging population that requires carefully procured retirement planning. Investments managed by Canada's funds industry have grown from under $100 billion in the early 1990s to $1.71 trillion in May 2019. That figure currently accounts for roughly 38.0 per cent of all privately held financial wealth in Canada. By comparison, trusteed pension funds hold a similar amount of assets, at $1.9 trillion.

Canadians typically interact with the funds industry though financial advisors who assist them in planning their finances, saving an adequate amount to meet their financial goals, and selecting an appropriate investment portfolio. For many of these individuals, Canada's fund management firms provide an opportunity to invest small amounts of capital to be managed and traded professionally on various international markets. Economically, these firms and trained professionals assist their clients with long-term strategic thinking related to investments and savings, which in turn stimulates stable and healthy economic growth.

This report first describes the funds industry in Canada and articulates the methodology used to help deliver the results. It then quantifies the economic impact and looks specifically at the funds industry's aggregate economic footprint, the goods and services purchased from suppliers, the number of employed persons, and the tax revenues generated. The report concludes with final insights on how the funds industry impacts the Canadian economy, focusing largely on the number of well-paying jobs created and the aggregate effect on Canadian GDP.

This report is the first in a series of two. This first part aims to set the stage by providing an overview of the economic footprint of the investment funds industry in Canada. It will be followed by another report that will focus on quantifying the impact that financial advice has on Canadians' savings rate and the broader economy. In simple terms, this report asks, "What does the funds industry do for Canada?" and the second report will ask, "What does financial advice do for Canadians and for Canada?"

Definitions

Gross domestic product (GDP) is used to measure production in a region during a specific period. There are various ways to calculate GDP, though the concept of value added is arguably the most intuitive.

Value added (or **net output**) is established for each industry by calculating the difference between total revenue and the sum of expenses of intermediate parts, materials, and services used in the production process. Calculating the value added for all industries in a region will yield the GDP in that region.

Economic footprint (or **economic impact**) is defined as a sector or industry's overall contribution to national economic activity. It includes the direct, indirect, and induced impacts described below.

Direct impact measures the value added to the economy that is directly attributable to the sector. This can be measured asthe compensation paid to labour, the profits earned, and the revenues paid to governments and fees paid to regulators.

Indirect impact (or **supply-chain impact**) measurements look at the value added that the direct impact firms generate within the economy through their demand for intermediate inputs or other support services. These purchases of goods and services from suppliers make up the supply chain.

Induced impact results when employees and business owners spend their earnings and profits. These purchases at other businesses in the wider economy lead to more employment, higher wages, and increased income and tax revenues.

A sector's **economic multiplier** corresponds to the ratio between the sector's overall impact on the economy and the economic activity it generates.

The funds industry in context

The Canadian funds industry, measured in annual revenues, has more than doubled in size since 2006, earning revenues of $30.6 billion last year compared with $14.4 billion in 2006. That represents an annual compound growth rate of 6.5 per cent, much faster than the growth of the Canadian economy as a whole. The funds industry contracted following the 2008 financial crash, when revenues fell by roughly 15.8 per cent, but recovered strongly in 2010, posting annual revenue growth of 18.9 per cent. (See Chart 1.)

Assets held by mutual funds and ETFs in Canada rose by 117 per cent between 2006 and 2018, and as of May 2019 are valued at $1.71 trillion. Most of these assets are held by clients in Ontario (45.4 per cent), followed by Quebec (18.6 per cent), British Columbia (13.5 per cent), and Alberta (11.5 per cent). To understand how significant $1.7 trillion in assets is, total Canadian GDP was $2.0 trillion last year.

Importantly, assets invested and administered by wealth managers in Canada are often personal savings and retirement planning funds that Canadians entrust to their financial advisor. The funds industry plays a key role in promoting higher savings rates and in helping Canadians invest their savings to prepare for future financial goals.

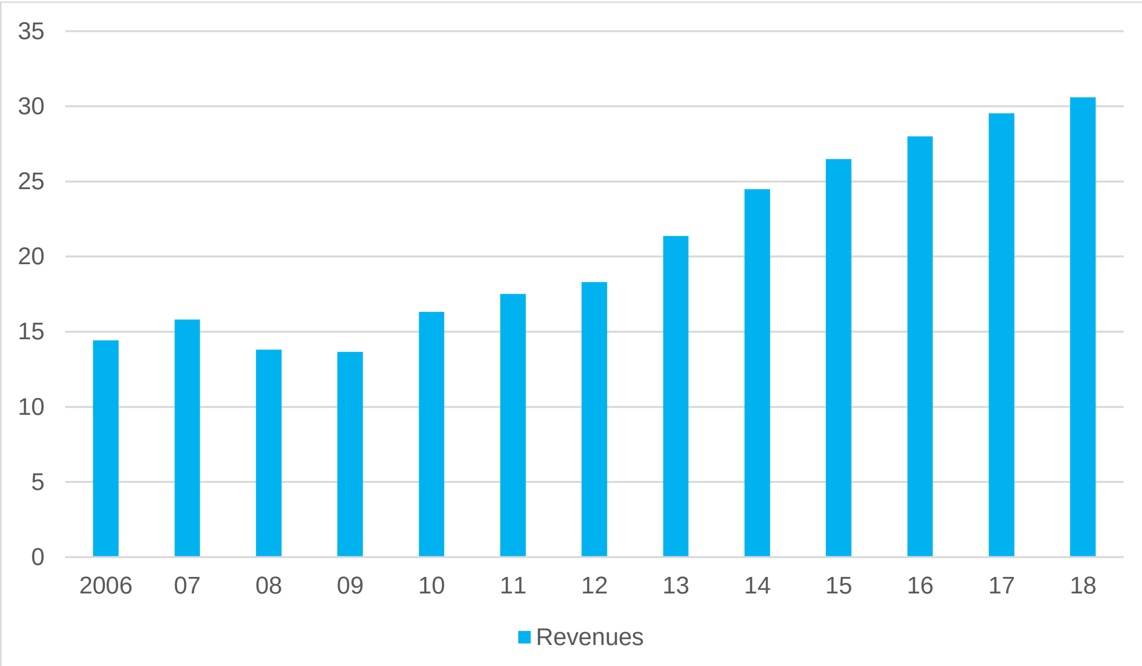
On the other side of the ledger, these savings are invested in purchasing shares of companies and corporate and government bonds, providing a valuable source of funding for Canadian firms and governments. According to Fundata, the Canadian investment funds industry currently provides Canadian companies with $370 billion in capitalization in the form of equity and a further $167 billion in funding in the form of corporate bonds. Additionally, the funds industry helped governments raise $172.5 billion in the form of debt issuance in 2018, according to the Investment Industry Association of Canada.[1] As Canadians looking to save are matched with companies and governments seeking to raise funds, a symbiotic relationship is created that provides benefits to both sides.

[1] Investment Industry Association of Canada, *Canada's investment industry 2018 at-a-glance*.

Chart 1

Annual revenues earned by Canada's funds industry

($ billions)



Sources: The Conference Board of Canada; The Investment Funds Institute of Canada.

In large part, the industry funds its activities through the management expense ratio (MER), which is calculated based on a firm's annual management fees, taxes paid, and operating expenses. For many Canadians seeking to invest their savings through wealth management firms, this ratio is critical, because it determines the percentage that is removed from a fund client's annual investment gain.[2] Average MERs have declined marginally in Canada between 2006 and 2018. The Canada-wide rate currently sits at 1.80 per cent, compared with 2.02 per cent in 2006.

Geographically, there is little variation in each province's average MER. Management fees are relatively stable across Canada, as clients across the country pay the same fee for the same funds. For the industry, the MER is the most important source of revenues. It supports both fund managers and dealers, who often earn a trailing commission from fund managers. Some fund dealers also charge direct fees for their services. Such fees currently represent a relatively small share of total revenues, accounting for $2.1 billion of the $30.6 billion earned by the funds industry in 2018.

Worldwide, assets held by the global funds industry equalled US$50.4 trillion at the end of 2018, down from US$53.11 trillion at the end of 2017.[3] By fund type, most of these assets were in equities (43.0 per cent), followed by bonds (22.0 per cent), mixed funds (13.0 per cent), and funds traded in money markets (13.0 per cent).

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[2] For example, if the investment gain is 9.0 per cent and a firm's MER is 3.0 per cent, the client receives 6.0 per cent of their investment gain due to the firm's management fees, taxes paid, and operating expenses.

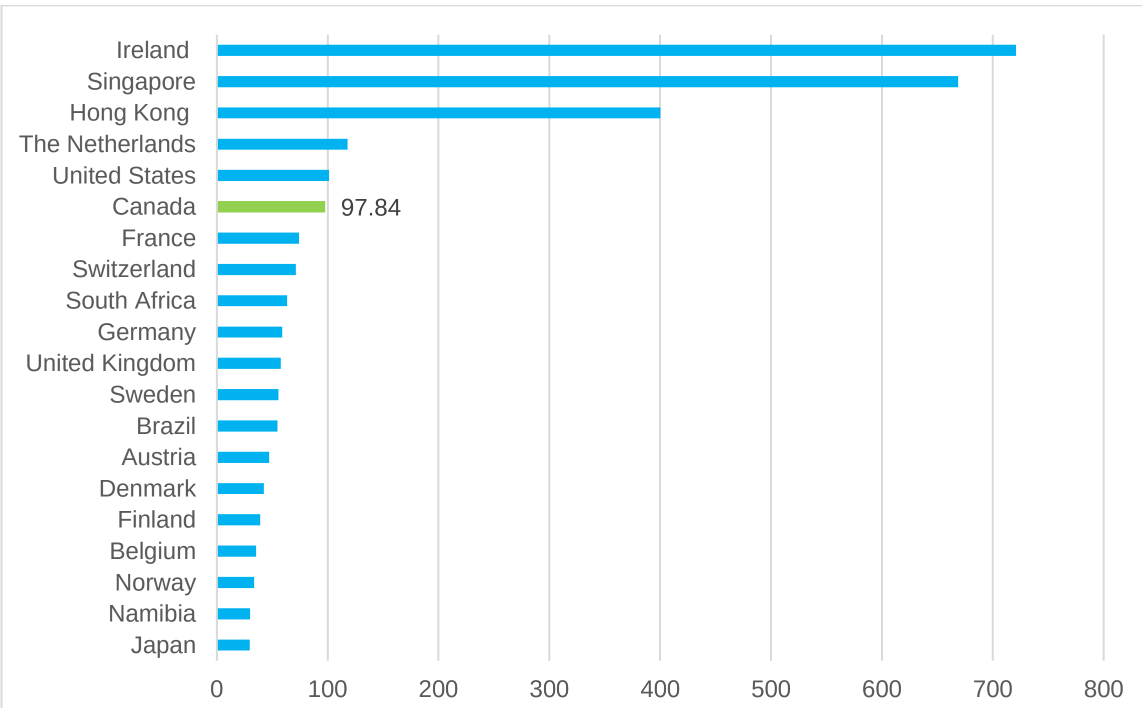
[3] International Investment Funds Association, "Worldwide regulated open-end fund assets and flows."

One useful metric to assess this information by country is to analyze that country's mutual-fund industry size against its total national output. (See Chart 2.) Compared with similarly developed countries, Canada's funds industry is relatively large, at approximately 97.8 per cent of annual national output.[4] Indeed, Canada is ranked sixth worldwide using this measurement, but is 23.6 percentage points higher than France, which is ranked seventh worldwide.

Chart 2

Countries ranked by funds industry assets to GDP ratio, 2016

(per cent)



Note: Only countries with 2016 data were selected for analysis; reporting for 2017 and 2018 was not selected due to data unavailability.

Sources: The Conference Board of Canada; The World Bank.

Comparatively, Canada's funds industry is significantly larger than that of most other developed countries when measured against national output. The top three countries on this list (Ireland, Singapore, and Hong Kong) are clear outliers. As centres for offshore finance, a significant portion of their assets under management come from other jurisdictions. Excluding these countries, Canada ranks third, just below the United States and the Netherlands.

Several indicators are useful in explaining the size of Canada's funds industry compared with the rest of the world, and why Canadians entrust their financial advisors with investment funds at relatively high rates. Polling data from Pollara indicate that Canadian mutual fund

[4] World Bank, Global financial development.

investors have high confidence in mutual funds for meeting financial objectives and are very satisfied (95.0 per cent) with how their assets are managed.[5] Most Canadian mutual-fund investors also indicate that they value the personalized expertise, savings strategies, and encouragement to conduct thoughtful investments offered by their financial representative.[6] While these indicators do not fully explain why the funds industry in Canada is so large, they do suggest that Canadians are mostly content and satisfied with the financial services that are available to them.

Another reason why Canadians feel confident about investment funds is that, compared with other investment options, mutual funds and ETFs allow clients to invest small amounts of capital into diversified portfolios managed by trained professionals.[7] Additionally, Canadians can access mutual funds through their personal banker, financial planner, brokerage firm, credit union, and/or investment firm. Due to this flexibility, investment funds are an attractive option for individuals who might not be comfortable directly investing and trading securities themselves.

[5] Pollara Strategic Insights/Investment Funds Institute of Canada, *Canadian mutual fund investor survey*.
[6] Ibid.
[7] Canadian Securities Administrators, *Understanding mutual funds*.

Methodology

This report quantifies the economic footprint of the funds industry in Canada. Calculating an economic footprint involves estimating the full impact an industry has on the entire economy by using economic models to help us understand how changes in the activity of one industry can have wider repercussions.

The largest impact is the economic activity directly attributed to an industry (direct impact), which comes largely in the form of wages paid to those directly employed in the sector and the profits generated. In addition, a sector's normal operations will generate demand for inputs from other industries (indirect or supply-chain impact), while some of the income and profits generated by all these activities will be spent again elsewhere in the economy (induced impacts).

The first step is obtaining the total revenues of the funds industry at the provincial level. Unfortunately, this is not publicly available data. Consequently, we contracted an external provider, Strategic Insight, to collect the data at the provincial level. Strategic Insight provided us with fund industry revenues from the sale of mutual funds and ETFs for Canada and major provinces.

We then contracted Statistics Canada to perform a simulation of their interprovincial input-output model. This simulation estimates the economic impact of the funds industry plus the spending that ripples through suppliers, employees, and the wider economy.

While the input-output simulation provides a detailed account of the flow of spending through the sectors of the economy, the results cover only a limited range of impacts. We therefore used The Conference Board of Canada's macroeconomic model of the Canadian economy to generate additional impact estimates not available through Statistics Canada's input-output model.

Economic footprint assessment

In this section, we discuss the results obtained from the economic modelling mentioned above. The three categories of impact are discussed, and relevant comparisons are made to the industry's past performance and to the characteristics of other industries.

The funds industry earned $30.6 billion in revenues in 2018, nearly half of that in Ontario. (See Table 1.) Of these revenues, the vast majority ($28.5 billion) were earned from MER fees paid to fund managers and fund dealers. The remaining $2.1 billion in industry revenues were earned by dealers who charge their clients fees directly.

Table 1
Revenues of Canada's funds industry, 2018
($ billions)

	ON	QC	BC	AB	Other provinces
Revenues (from mutual funds & ETFs)	14.0	5.7	4.2	3.4	3.4

Source: Strategic Insight.

Direct impact

From that $30.6 billion in total revenues, the funds industry directly contributed $9.7 billion in gross value-added economic activity to the Canadian economy in 2018. This direct contribution measures dollar value of the money spent by the funds industry on labour compensation, the amount earned in profits, the taxes paid to governments, and the fees paid to regulators. This figure captures investment fund-related economic activity at both the dealer and fund management levels. The model estimates the direct employment impact at 81,000 full-time equivalent jobs nationwide. (See Table 2.) As the largest provincial economy, and with the largest concentration of investment fund headquarters, Ontario naturally leads with $4.2 billion in GDP and 38,000 jobs. (See Table 3.)

Table 2
Direct economic impact of Canada's funds industry, 2018

Key economic indicators	
GDP at basic prices ($ billions)	9.7
Labour income	8.3
Employment (full-time equivalent)	81,000
Government revenues ($ billions)	3.7
Federal government revenues	1.9
Provincial government revenues	1.5

Sources: The Conference Board of Canada; Statistics Canada.

Table 3
Direct economic impact—provincial analysis, 2018

	ON	QC	BC	AB	Other provinces
GDP at basic prices ($ billions)	4.2	1.9	1.3	1.1	1.2
Labour income	4.0	1.5	1.2	0.9	0.9
Employment (full-time equivalent)	38,000	14,000	11,000	8,000	10,000

Sources: The Conference Board of Canada; Statistics Canada.

These results mean that, in terms of its direct economic size, the funds industry is comparable to the aerospace manufacturing industry or the petroleum refining industry. The funds industry employs about as many people as all gas stations in the country and pays its workers very high wages. Including benefits, the funds industry pays just over $100,000 in total labour compensation per full-time equivalent worker. Eighty-six per cent of the funds industry's GDP comes in the form of labour compensation, compared with the national average of 48 per cent of GDP in the form of labour income.

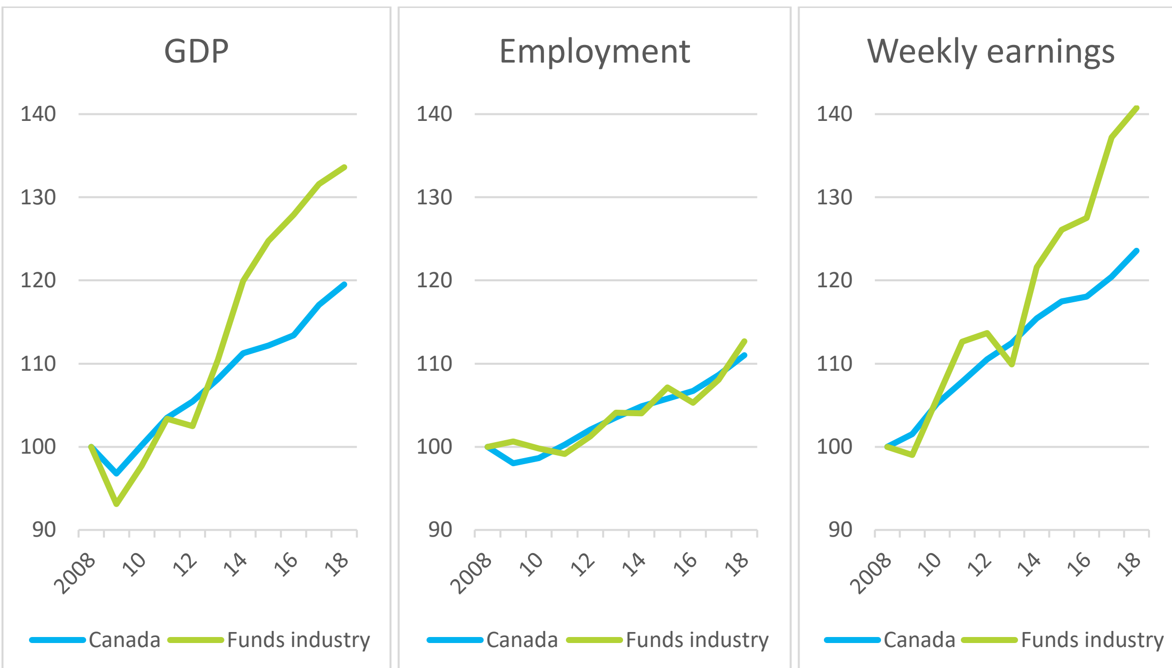
Although the overall labour income numbers are superb, there is opportunity for progress in the distribution of income within the industry. While our modelling does not allow us to see the distribution of workers' earnings directly, according to the 2016 census the occupational category for investment professionals had a median income of $60,875 but an average income of $90,601. This $30,000 gap between the median and the average is very large by Canadian standards—the average occupation has an $11,500 gap between median and average. This indicates that the average income figure in the funds industry is being inflated by some very well-paid individuals, rather than by an even distribution of high-paying jobs.

Looking at the funds industry's overall performance over time, we see that the past decade has been one of tremendous success. (See Chart 3.) Between 2008 and 2018, GDP in the industry grew by 33.6 per cent, compared with 19.5 per cent for the Canadian economy as a whole. Employment grew by 12.7 per cent, compared with the Canadian average of 11.0 per cent. With output growing so much faster than employment, and with average hours worked in finance, insurance, and real estate flat over the past 10 years, the industry achieved huge productivity gains in the past decade. As a result, labour income grew by a remarkable 40.7 per cent, compared with 23.6 per cent for the Canadian economy as a whole.

Chart 3

Industry performance compared with Canadian economy

(2008 = 100)



Source: Statistics Canada.

Supply-chain impact

The direct economic impact of the funds industry is far from its full economic impact; the industry also supports a plethora of other businesses in the economy. Without the spending on goods and services made by investment funds, local producers and distributors would have less business. They would, in turn, need to employ fewer people in building and distributing office equipment and providing professional services. Adding these supply-chain impacts (referred to as indirect impacts) to the direct impacts implies that the economic activity associated with the funds industry totalled a $27.4-billion contribution to Canadian GDP in 2018 and supported 199,000 jobs. (See tables 4 and 5.)

Table 4

Direct and indirect economic impacts of Canada's funds industry, 2018

Key economic indicators	
GDP at market prices ($ billions)	27.4
Labour income	18.5
Employment (full-time equivalent)	199,000
Government revenues ($ billions)	4.4
Federal government revenues	2.3
Provincial government revenues	1.9

Sources: The Conference Board of Canada; Statistics Canada.

Table 5

Direct and indirect economic impact—provincial analysis, 2018

	ON	QC	BC	AB	Other provinces
GDP at market prices ($ billions)	12.7	5.0	3.5	3.2	2.8
Labour income	8.6	3.3	2.6	2.3	1.7
Employment (full-time equivalent)	92,000	38,000	27,000	20,000	21,000

Sources: The Conference Board of Canada; Statistics Canada.

The supply-chain impacts are felt across a wide range of industries, the five largest of which are outlined in Table 6. The funds industry's largest purchases come from the professional, scientific, and technical services industries, which provide accounting, legal, and other professional services. Other important inputs originate from administrative services, information and cultural industries (likely in the form of software or technology services), manufacturing (likely in the form of office equipment), and transportation and warehousing. In each of these industries, several thousand jobs are supported exclusively thanks to the spending of the funds industry.

Table 6

Distribution of supply-chain purchases by funds industry, 2018

Sector	Purchases by funds industry ($ billions)	Jobs supported
Professional, scientific, and technical services	3.0	14,000
Administrative and support, waste management, and remediation services	1.4	12,000
Information and cultural industries	1.4	3,000
Manufacturing	1.0	3,000
Transportation and warehousing	0.6	3,000

Sources: The Conference Board of Canada; Statistics Canada.

Total impact

The final component of the total economic impact is the induced effect. When the funds industry pays out salaries to its employees and profits to its shareholders, this income is spent in other areas of the economy, including mortgages, rent, and groceries. This spending is referred to as the induced impact. When the induced effects are added to the direct and indirect effects, the total economic impact of the funds industry is derived.

The total contribution of the funds industry to GDP was $37.1 billion in 2018. The total number of direct, indirect, and induced jobs supported as a result of the funds industry was 260,000. (See tables 7 and 8.) The total labour income earned in the economy as a result of the economic activity was $22.4 billion. The economic footprint of the funds industry also includes a significant amount of tax revenue for governments. The funds industry, including the supply chain and the induced economic activity from their employees' spending, adds a total of $7.3 billion in additional revenues for governments.

Table 7

Direct, indirect, and induced economic impacts of Canada's funds industry, 2018

Key economic indicators	
GDP at market prices ($ billions)	37.1
Labour income	22.4
Employment (full-time equivalent)	260,000
Government revenues ($ billions)	7.3
Federal government revenues	3.8
Provincial government revenues	3.1

Sources: The Conference Board of Canada; Statistics Canada.

Table 8

Direct, indirect, and induced economic impacts—provincial analysis, 2018

	ON	QC	BC	AB	Other provinces
GDP at market prices ($ billions)	17.2	6.8	4.9	4.4	3.8
Labour income	10.5	4.1	3.1	2.7	2.0
Employment (full-time equivalent)	121,000	50,000	34,000	26,000	28,000

Sources: The Conference Board of Canada; Statistics Canada.

Overall, the funds industry has a total economic multiplier of 1.21. That means each dollar of revenue in the sector leads to over a dollar of value-added economic activity as it ripples through the entire economy. This is a fair bit higher than the total Canadian average multiplier for all industries of 1.06, indicating that the funds industry is a little more efficient than average at feeding its revenues back into value-added production in the Canadian economy. The largest factor affecting this multiplier is the ratio of imports in production. As the funds industry's input costs are almost entirely in the form of labour, it has to import very little of its inputs relative to some other industries. This means more of the gains from the industry remain in the hands of Canadian workers and businesses.

The funds industry has a full-time equivalent employment multiplier of 8.48, meaning that every million dollars of output in the sector supports about eight full-time equivalent jobs. Although full-time equivalent figures for the entire economy are not publicly available, we can compare the industry's performance with the rest of the economy using the total jobs multiplier instead. This measure gives equal weight to full-time, part-time, and temporary jobs, but it is more widely available. In our analysis, the funds industry's total jobs multiplier is 10.75. For the broader Canadian economy, the figure is 10.30. This indicates that, compared with the average industry, the funds industry employs slightly more people per dollar of output. This is due to the labour-intensive nature of the work in the industry.

As with any industry, the funds industry is evolving with time. As its firms and workers learn new and more effective ways of operating, the structure of the industry changes. Looking at historical input-output tables allows us to get a glimpse of the kinds of changes that have been taking place in the industry. Looking at the input-output tables from a decade ago, we see that in 2008 the funds industry was slightly more efficient at turning raw revenues into value-added GDP and employment. In 2008, the total GDP multiplier for a dollar of revenue in the funds industry was 1.27, meaning that as each dollar earned by the funds industry trickled through the supply chain and economy it produced $1.27 in benefits. In our analysis, that number has fallen to 1.21, likely reflecting an increased reliance on imports in the business. Similarly, in 2008, the total jobs multiplier (once again, full-time equivalent data are not publicly available) for a dollar of revenue in the funds industry was 14.98, meaning that for every million dollars of revenue in the industry, about 15 people were employed across the economy. By contrast, in our analysis that multiplier has fallen to 10.75,[8] likely reflecting the increasing importance of automation in the sector.

Of the total economic footprint for the funds industry, most economic activity unsurprisingly occurs in the finance, insurance, and real estate industry, with nearly two-thirds of total GDP. (See Table 9.) However, a variety of other sectors also see substantial activity because of the economic footprint of the funds industry. Many of them are familiar from the supply-chain list in Table 6. The only major addition is in the category called “owner-occupied dwellings,” which captures the value of the imputed rent of funds-industry employees living in their own homes.

[8] Note that this figure refers to all jobs, not full-time equivalent jobs. This measure is used here for historical comparison.

Table 9

Distribution of total economic footprint of funds industry, 2018

(per cent)

Sector	Total impact
Finance, insurance, real estate, rental and leasing and holding companies	62
Professional, scientific, and technical services	6.4
Owner-occupied dwellings	5.2
Information and cultural industries	3.3
Administrative and support, waste management, and remediation services	3.3

Sources: The Conference Board of Canada; Statistics Canada.

Conclusion

The investment funds industry provides savings and investment advice and facilitates Canadians' savings in investment vehicles like mutual funds and ETFs. Given Canada's aging population, our rising dependency ratio, and the declining availability of workplace pensions, it is crucial that Canadians plan appropriately for retirement in the coming years. Adequate savings and investments will be crucial to achieving this goal.

This report aims to set the stage by providing an overview of the economic footprint of the investment funds industry in Canada. A second forthcoming report by the Conference Board will examine in greater detail the role of financial advice in Canadians' savings behaviour and its impact on the broader economy.

The funds industry earned $30.6 billion in revenues from the sale of mutual funds and ETFs in 2018. Based on this figure, the Conference Board estimates that this industry was responsible for $9.7 billion in direct value added to GDP, employing 81,000 people (on a full-time equivalent basis), and adding $3.7 billion to government revenues.

Including direct impacts, supply-chain impacts, and other induced impacts, the fund industry's total economic footprint was $37.1 billion last year. It supports a total of 260,000 full-time equivalent jobs across the economy and $7.3 billion in government revenues.

Appendix A: Statistics Canada modelling explanatory notes

Definitions

Direct impact measures the initial requirements for an extra dollar's worth of output of a given industry. The direct impact on the output of an industry is a one-dollar change in output to meet the change of one dollar in final demand. Associated with this change, there will also be direct impacts on GDP, jobs, and imports.

Indirect impact measures the changes due to inter-industry purchases as they respond to the new demands of the directly affected industries. This includes the chain reaction of outputs along the production stream, since each of the products purchased will require, in turn, the production of various inputs.

Induced impact measures the changes in the production of goods and services in response to consumer expenditures induced by households' incomes (i.e., wages) generated by the production of the direct and indirect requirements.

Assumptions and interpretation

The input-output (IO) model is based on the assumption of fixed technological coefficients. It does not take into account economies of scale, constraint capacities, technological change, externalities, or price changes. This makes impact analysis less accurate for long-term and large impacts as firms adjust their production technology and the IO technological coefficients become outdated. Assuming that firms adjust their production technology over time to become more efficient implies that the impact of a change in final demand will tend to be overestimated.

The endogenization of household consumption is based on the assumptions of constant consumption behaviour and fixed expenditure shares relative to incomes.

It is generally acknowledged that the open model underestimates economic impacts, since household activity is absent, and the closed model overestimates economic impacts, because of the rigid assumptions about labour incomes and consumer spending. They can be considered as upper and lower bounds of impact.

Full-time equivalence and number of jobs

Two types of jobs impacts and multipliers are available: one for the total number of jobs and another that transforms paid employee jobs into a full-time equivalent (FTE) number of jobs. The estimate of the total number of jobs covers two main categories: employee jobs and self-employed jobs (including persons working in a family business without pay). The total number of jobs includes full-time, part-time, temporary, and self-employed jobs. It does not take into account the number of hours worked per employee. FTE jobs include only employee jobs that are converted to full-time equivalence based on the overall average full-time hours worked in either the business or government sectors.

The data source for the number of jobs calculated in the model is CANSIM Table 383-0033, “Labour productivity and related measures by business sector industry and by non-commercial activity consistent with the industry accounts, provinces and territories.”

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