Innovation, Science and Economic Development Canada
Innovation, Sciences et Développement économique Canada

CANADA SMALL BUSINESS FINANCING PROGRAM: COST-BENEFIT ANALYSIS

2024

Innovation, Science and Economic Development Canada
Small Business Branch
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Canada

Canada Small Business Financing Program: Cost-benefit analysis

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EXECUTIVE SUMMARY

This study provides an evaluation of the Canada Small Business Financing Program (CSBFP), administered by Innovation, Science and Economic Development Canada, spanning a nine-year period from 2013–2014 to 2021–2022.

The analysis quantifies the program's benefits and costs to determine whether the CSBFP provides a net benefit. Additionally, a sensitivity analysis is conducted to estimate upper and lower bounds to program benefits and costs. In line with previous studies, the results confirm the program's important role in expanding financing access for Canadian small and medium-sized enterprises, showing a strong positive impact on the Canadian economy. Across various sensitivity scenarios, including high, medium, and low trajectories, the CSBFP consistently delivers significant net social benefits, surpassing social costs by a substantial margin—nearly $5 billion in total or $403 million or more annually.

Furthermore, the study highlights the unique challenges posed by the COVID-19 pandemic, with the year 2020–2021 marking the lowest annual net benefit. During that period, the Government of Canada provided emergency response programs specifically designed to help businesses overcome the economic effects of the pandemic. These additional supports included interest-free loans through the Canada Emergency Business Account (CEBA), as well as other business financing programs. Nevertheless, the CSBFP continues to provide economic benefits, with every dollar invested in program costs resulting in an additional seven dollars in benefits.

1. INTRODUCTION

The Canada Small Business Financing Program (CSBFP) is a loan loss-sharing initiative designed to improve access to financing for small and medium-sized enterprises (SMEs). This is accomplished through partnerships with private sector financial institutions, wherein the program's loan guarantee mitigates lending risks and helps provide affordable financing options.

CSBFP loans are used by SMEs to start up, expand, and modernize their operations. In accordance with the mandates set forth in the *Canada Small Business Financing Act*, the Department of Innovation, Science and Economic Development Canada (ISED) conducts periodic comprehensive reviews of the CSBFP. These evaluations, conducted every five years, gauge the program's effectiveness in stimulating economic growth and job creation within the Canadian landscape, through the facilitation of SMEs' access to financing. The cost-benefit study contributes to the upcoming CSBFP evaluation, which will examine the period 2019–2024.

This study seeks to estimate the program's net social benefit by comparing the costs associated with program administration with the economic benefits arising from increased financing accessibility for SMEs. Additionally, the study provides industry-specific, province/territory-specific, and loan class-specific evaluation. This analysis follows methodologies employed in previous CSBFP cost-benefit analyses by KPMG in 2009, Seens in 2015, and Huang and Rivard in 2019.

The results of this analysis underscore a consistent trend: the CSBFP has delivered substantial net social benefits throughout the nine-year evaluation period spanning from 2013–2014 to 2021–2022.[1] These benefits total nearly $5 billion, with a positive net benefit of $403 million or more annually. These findings highlight the program's contribution to the Canadian economy.

The remainder of this report is organized as follows:

- Section 2: Detailed program overview
- Section 3: Empirical framework for measuring the net social benefit
- Section 4: Program costs
- Section 5: Program benefits
- Section 6: Net social benefits of the CSBFP
- Section 7: Conclusions

[1] CSBFP fiscal years are from April to March.

2. CANADA SMALL BUSINESS FINANCING PROGRAM

The primary objective of the CSBFP is to facilitate access to financing for the establishment, expansion, modernization and improvement of Canadian small businesses. In doing so, the program encourages economic growth and job creation within the SME sector. This initiative officially began on April 1, 1999, taking over from the longstanding Small Business Loans Program (SBLP), which had been in operation since 1961. Guided by the regulatory framework of the *Canada Small Business Financing Act* and its Regulations[2], the CSBFP recently underwent some amendments, effective as of July 4, 2022.[3] Note that these recent amendments are beyond the scope of this cost-benefit analysis.

Small businesses play an important role in the Canadian economic landscape, constituting 98% of all enterprises, and responsible for 69% of job creation.[4] However, these businesses often encounter challenges in obtaining financing, especially when credit markets are characterized by credit rationing. In such scenarios, even creditworthy small businesses may find it difficult to secure loans, particularly if they are perceived as riskier borrowers, despite being willing to pay higher interest rates.

The CSBFP, by partnering with financial institutions and sharing the risk of financing, is designed to encourage lending to higher-risk SMEs. In particular, in the event of loan defaults, the CSBFP reimburses 85% of eligible losses to financial institutions. CSBFP financing is available to for-profit and not-for-profit small businesses with gross annual revenues of $10 million or less in all industry sectors, excluding the agriculture sector.[5]

The decision on loan approval is made by the lender, which manages the loan registration process with the CSBFP and assumes responsibility for all aspects of loan administration. This includes disbursing loan funds, as well as realization on security and guarantees when borrowers default.

The CSBFP sets a cap on the total financing amount for each borrower at $1.15 million. This overall limit includes a maximum of $1 million for term loans, of which a maximum of $500,000 can be used for equipment and leasehold improvements and $150,000 can be used for intangible assets and working capital costs, and a maximum of $150,000 for lines of credit.[6] Businesses can allocate program financing for various eligible expenses, including real property purchases, leasehold improvements, equipment acquisitions, intangible assets, working capital, and registration fees. The government's support through CSBFP loan coverage is a maximum of 15 years for term loans and five years for lines of credit.

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[2] For more information, see http://laws-lois.justice.gc.ca/eng/acts/C-10.2/index.html.

[3] For more information, see 2022 Changes to the Canada Small Business Financing Program.

[4] ISED (2022).

[5] On June 30, 2021, the restriction excluding not-for-profit organizations, charitable and religious enterprises as eligible borrowers was removed.

[6] In July 2022, the maximum loan amount increased from $1 million to $1.15 million, and a line of credit option was introduced.

Participation in the program does involve some administrative costs, including a one-time registration fee, typically borne by the borrower. This fee amounts to 2% of the total loan amount, or total authorized amount for lines of credit, and can be financed as part of the loan package. Lenders also contribute by paying an annual administration fee, fixed at 1.25% and calculated monthly based on their outstanding loan portfolio. This fee is incorporated into the interest rate charged to borrowers and remitted to ISED. These funds help offset government expenses incurred in handling claims arising from defaulted loans.

The interest rate applied to CSBFP loans depends on a variety of factors, including the chosen financial institution and prevailing credit market conditions. However, the program sets limits to ensure that borrowers receive fair terms. For variable loans, the maximum interest rate is capped at the lender's prime rate plus 3%. Meanwhile, fixed loans are bound by a cap, with the maximum interest rate set at the lender's single-family residential mortgage rate plus 3%. The maximum interest rate for lines of credit is set at the lender's prime rate plus 5% due to the riskier nature of flexible financing.

3. EMPIRICAL FRAMEWORK

To enable comparison with previous analyses, this report closely follows the methodology and data sources used in preceding cost-benefit analyses conducted by KPMG (2009), Seens (2015), and Huang and Rivard (2019). The scope of this analysis covers fiscal years 2013–2014 to 2021–2022.[7]

3.1. Data sources

The following data sources are used:

- CSBFP database
- Economic impact studies of the CSBFP (Statistics Canada 2004; Statistics Canada 2009; Chandler 2010; Chandler 2012; Song 2014; Huang and Rivard 2019)
- Previous cost-benefit analyses of the CSBFP (KPMG 2009; Seens 2015; Huang and Rivard, 2019)
- 2018 and 2019 Canadian Input–Output Model simulations (Statistics Canada)
- Bank of Canada interest rates

[7] Due to constraints related to data quality or availability, certain costs and benefits have been excluded. Nevertheless, it is worth nothing that in the majority of these cases, their impact on the overall scope of cost and benefits was minimal.

3.2. Benefits and costs

The quantifiable social benefit attributed to the CSBFP is computed by comparing the benefits of the program with its associated costs. The same methodology used in prior CSBFP cost-benefit analyses is followed to conduct this assessment. The following program benefits are assessed:

- The direct and indirect macroeconomic impact from investment by borrowers using CSBFP loans
- Spending by lenders to administer the program, including 1) salaries and wages, and 2) direct operating expenditures
- Profits earned by lenders from the interest charged on CSBFP loans
- Additional salaries and wages paid by borrowers
- Registration and administration fees paid by borrowers to ISED

In contrast, the costs involve both direct program expenses and administrative overhead related to the program, against which the above benefits are weighed. These costs consist of:

- Salaries and benefits of ISED staff involved in administration and management of the CSBFP
- Direct operational outlays for CSBFP, covering information management and technology (IM/IT), travel expenses, supplies and contracted services
- Capital expenditures, including procurement of IT systems and other assets
- ISED's expenses related to loan defaults (claim payments)
- Lenders' expenses related to loan defaults (loan losses)

3.3. Cost-benefit analysis

Cost-benefit analysis offers a framework for assessing whether a program generates social benefits that outweigh its social costs (Pearce et al., 2006). A program that generates a net social benefit passes the Kaldor–Hicks compensation test, which suggests that those made better off from the program should, in theory, be capable of compensating those made worse off, implying an improvement in social welfare.

In this cost-benefit analysis, an evaluation of the CSBFP is conducted to determine whether the program yields a net benefit to society. Two metrics are estimated: the Present Value Net Benefit (PVNB) and the Benefit-Cost Ratio (BCR) of the CSBFP. To account for the backward-looking nature of this analysis, both PVNB and BCR values are compounded using a discount rate, allowing for evaluation of the net social benefit in its present value as of 2021–2022.

- The Present Value Net Benefit (PVNB) is calculated as the present value of the differences between the benefits of CSBFP and the costs of administering the program over the evaluation period. A PVNB greater than zero implies that the benefits derived from the CSBFP exceed the associated costs. The PVNB is calculated as follows:

$$\mathrm{PVNB} = \sum_{t=-8}^{0} \frac{(\mathrm{B}_t - \mathrm{C}_t)}{(1+\mathrm{r})^t}.$$

In this equation, B_t represents the total benefits and C_t represents the total costs, r denotes the discount rate and the years $t = -8, \ldots, 0$ correspond to fiscal years spanning from 2013–2014 to 2021–2022.

- Likewise, the Benefit-Cost Ratio (BCR) is calculated as the sum of the present value of the benefits yielded by the program divided by the sum of the present value of the program's costs. In this context, a BCR greater than one indicates that the program yields a positive net benefit to society. The BCR formula is calculated as follows:

$$\frac{\sum_{t=-8}^{0} \mathrm{B}_t/(1+\mathrm{r})^t}{\sum_{t=-8}^{0} \mathrm{C}_t/(1+\mathrm{r})^t}.$$

These metrics allow for evaluation of the CSBFP's net social benefits.

4. CANADA SMALL BUSINESS FINANCING PROGRAM COSTS

In this section, CSBFP costs—administration and loan default costs—are estimated. These costs include the following:

- Program administrative costs (such as salaries, wages and operating costs)
- Direct program costs (referring to the payment of default claims by ISED)
- Loan default costs (incurred to lenders)

In the course of the nine-year review period, the unfolding of the COVID-19 pandemic and the subsequent economic recovery exerted a significant effect on the market dynamics within which CSBFP borrowers operated. It is important to note that claims received by ISED typically exhibit a lag of two to four years following the issuance of loans, and additional time is necessary for the comprehensive review, audit and processing of these claims. Consequently, any potential impact of the pandemic on defaults might be observed in the claims data after a certain time lag.

4.1. Program administrative costs — *staff salaries and benefits*

The CSBFP staff administering the program are responsible for a range of crucial tasks including loan registration, claims processing, research initiatives, as well as the development of program policies. These staff receive compensation in the form of salaries, wages and associated benefits. The financial data used to assess these costs is from the Small Business Financing Directorate (SBFD) financial management system. These costs are estimated using the following calculation process:

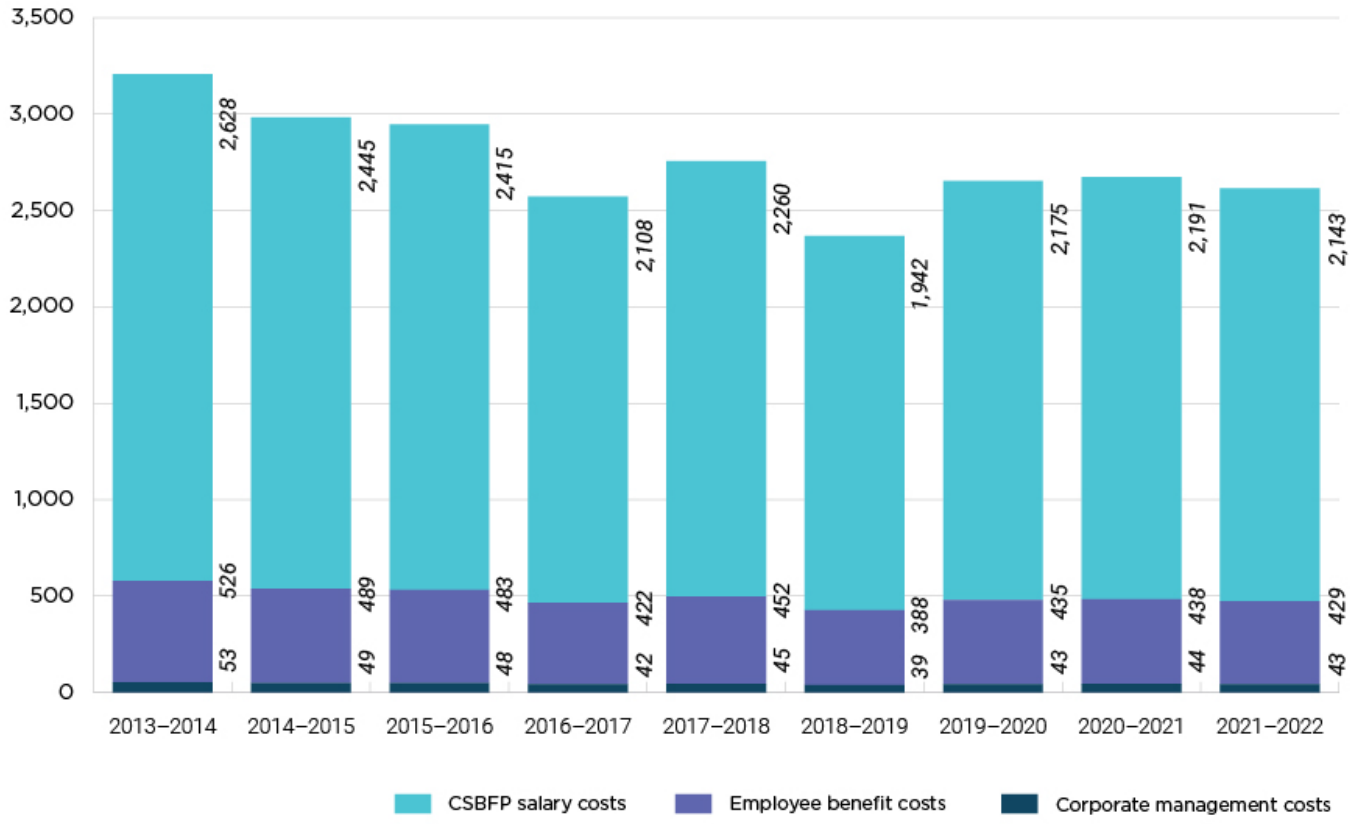
- ***Add*** **the salary costs for staff involved in the CSBFP:** This includes the salaries of CSBFP staff who work within the SBFD, including the SBFD Director and CSBFP teams including: Economic and Policy Analysis; Operations; and Program Integrity.
- ***Add*** **corporate management costs:** Senior management, including the Director General of the Small Business Branch; Assistant Deputy Minister of Small Business, Tourism and Marketplace Services; and Deputy Minister of ISED, spend a fraction of their time (approximately 2%) on activities associated with CSBFP management and oversight.
- ***Add*** **employee benefits costs:** Calculated at 20% of salary costs, the standard benefit calculation used across the Government of Canada.

Findings

Staff salaries and benefits

Salaries, benefits, and corporate management costs associated with the administration of the CSBFP totalled $24.8 million over the nine-year period of analysis, averaging $2.8 million per year (Figure 1). These costs have shown a declining trend compared with those in the previous report. The year 2018–2019 saw the lowest annual cost of $2.4 million. Over the period from 2018–2019 to 2021–2022, salaries and benefits paid increased by $0.25 million.

Figure 1: Estimated salary, benefit and corporate management expenditures of the CSBFP ($, thousands)



Source: Small Business Financing Directorate financial management system.

4.2. Program administrative costs — *direct operating expenditures*

In addition to the costs associated with staff remuneration, there are additional operating and maintenance expenditures involved in the administration of the CSBFP. These expenditures include training staff, repairs and maintenance, transportation and communication, resources, contracting, and information management/ information technology (IM/IT).

The data used to quantify these direct operating costs are obtained from the SBFD financial management system. The annual cost is estimated as:

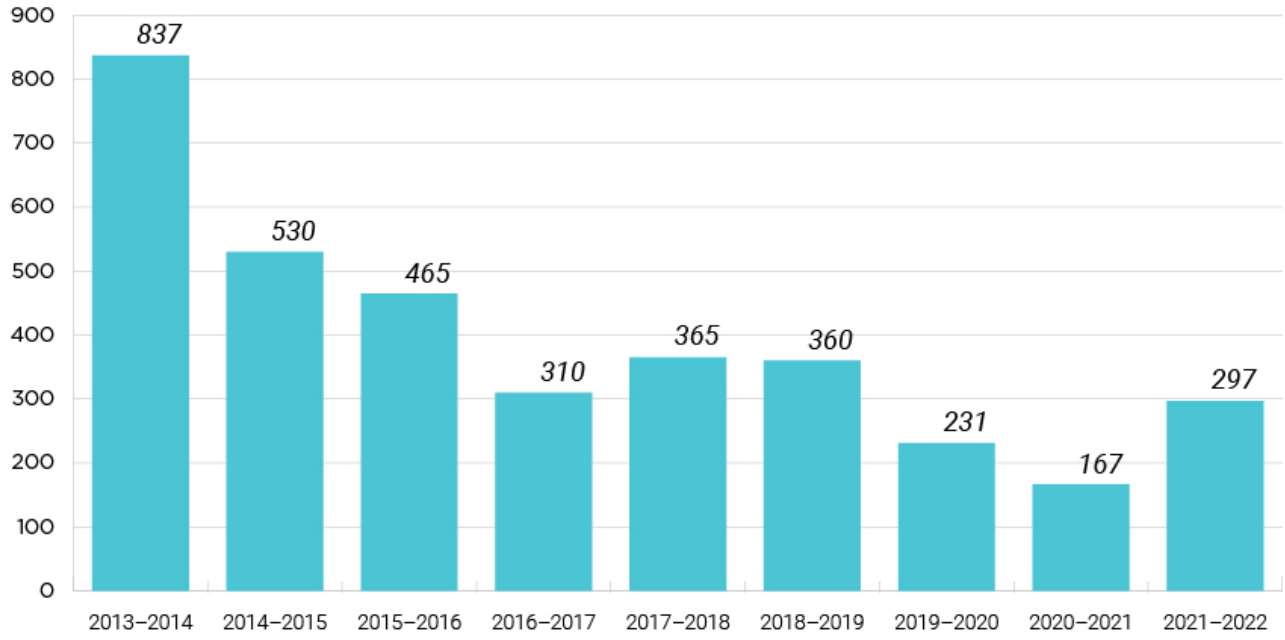
- **The total operating and maintenance (O&M) budget of the SBFD:** This includes expenditures on transportation and communication (e.g., travel, postage, freight and telecommunications); information (e.g., publishing, printing and communications services); professional and special services (e.g., legal services, training and translation); rentals, repairs, and maintenance (including building upkeep); utilities, materials and supplies, acquisition of other machinery (informatics equipment and components, machinery and furniture) as well as all other expenditures (including interest on accounts payable).

Findings

Direct operating expenditures

The cumulative operating and maintenance expenses of the CSBFP totalled $3.6 million from 2013–2014 to 2021–2022 (Figure 2). Fluctuations in expenditures over this period are predominantly associated with the cyclical nature of the five-year evaluation and statutory program review, leading to both upward and downward spending trends. Notably, reduced spending is evident in 2020–2021, influenced by the pandemic.

Figure 2: Estimated operating and maintenance expenditures of the CSBFP ($, thousands)



Source: Small Business Financing Directorate financial management system.

4.3. Program administrative costs — *capital expenditures*

Capital expenditures are another component of administrative costs and involve investment in equipment. In this analysis, capital expenditures are treated as timed payments upon acquisition, in contrast to the conventional asset accounting method which distributes costs over the projected economic lifespan of the assets. While this approach could potentially inflate their cost, the program's capital expenditures are relatively modest in comparison with total program costs. Consequently, this accounting methodology has little impact on the overall net-benefit assessment.

The data for the total annual capital expenditure is sourced from the CSBFP database.

Findings

Capital expenditures

For the nine-year assessment period, the total capital expenditures related to the CSBFP amounted to $0.03 million. Notably, these capital expenses were observed in the fiscal year 2013–2014, during which an investment of $30,000 was allocated to enhance information technology systems for electronic registration.

4.4. Direct program costs — *claims paid on loan defaults*

The direct program expenses associated with the CSBFP pertain primarily to claims paid on loan defaults, the most substantial cost category. In adherence to the Canada Small Business Financing Program Guidelines,[8] claims are typically submitted to the CSBFP after all security, guarantees, suretyships, or personal liabilities have been realized, and the proceeds are allocated towards repaying the loan. In some cases, claims may be initiated for losses incurred after the realization of primary security and any additional security related to business assets, but before the realization of guarantees or suretyships. In such situations, a portion of the claim payment, based on projected guarantees and outstanding amounts, is temporarily retained until the final claim submission. Should the lender obtain a greater sum than the estimated claim amount, the surplus is refunded to the CSBFP.

The calculation of claims paid on loan defaults is conducted annually using data from the CSBFP database, which includes the number of claims. The following steps outline the calculation process:

- *Add* the total cost of claims paid.
- *Subtract* refunds on interim claims submitted in previous years.

Findings

Claims paid on loan defaults

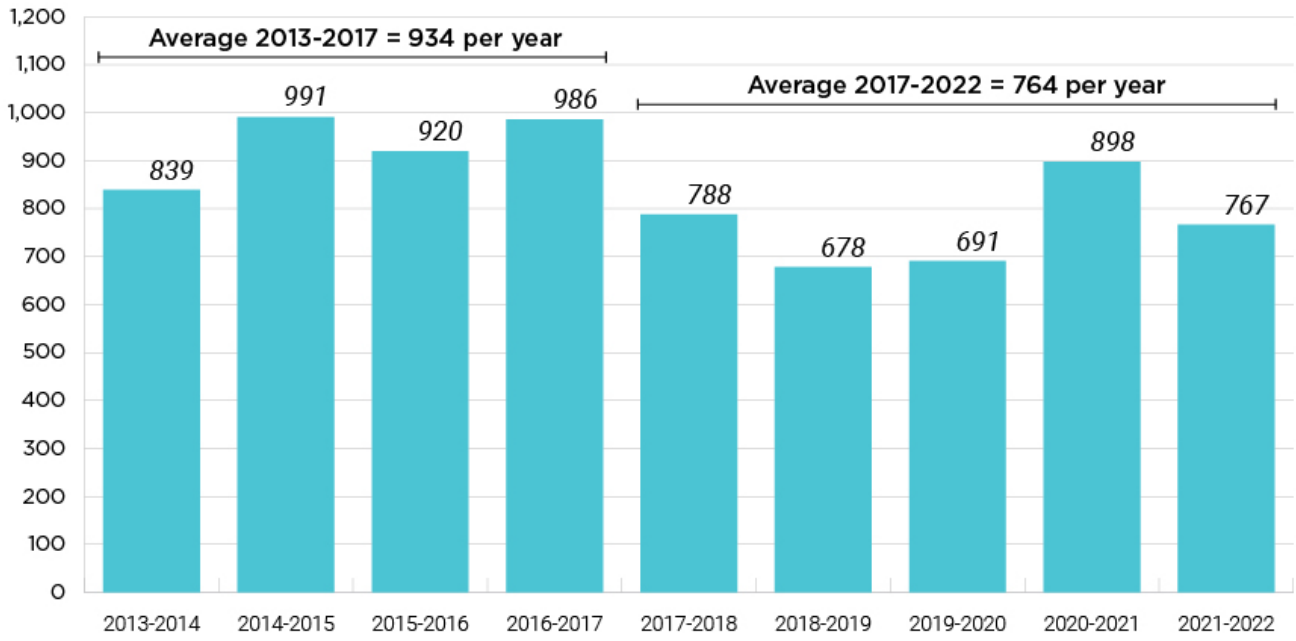
Figure 3 illustrates the trend of CSBFP loan default claims processed by ISED during the evaluation period from 2013–2014 to 2021–2022, totalling 7,558 claims. This figure is significantly lower in comparison with the previous cost-benefit analysis, which saw over eleven thousand default claims being processed. The reduction in claims can be attributed to the aftermath of the 2008–2009 recession when the average claims processed per year between 2008 and 2012 was approximately 1,684.

Comparing the claims processed during the first four years of the study period, averaging 934 annually, and the latter five years, averaging 764 annually, further highlights this decline.

In the initial years of the analysis, claims peaked at around 990 per year in both 2014–2015 and 2016–2017, but then experienced a sharp decline, reaching a low of approximately 700 claims in 2018–2019 to 2019–2020. However, with the onset of the pandemic there was a substantial increase in the claims processed, reaching approximately 900 in 2020–2021, and subsequently declining to 767 in 2021–2022.

[8] CSBFP Guidelines are detailed at https://www.ic.gc.ca/eic/site/csbfp-pfpec.nsf/eng/h_la03133.html.

Figure 3: Number of CSBFP claims processed



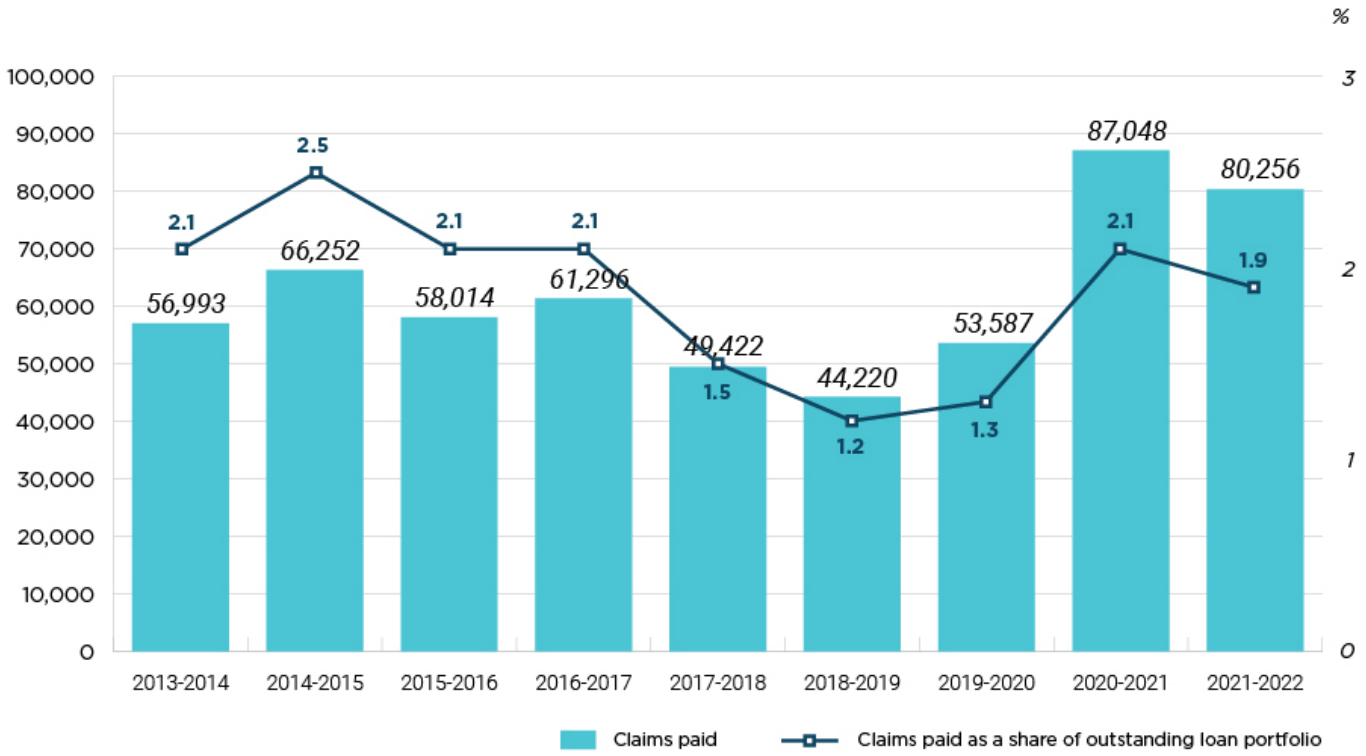
Sources: Internal CSBFP database; and author's calculations.

The value of claims paid on CSBFP loan defaults shows a similar trend (Figure 4), with the value of claims dropping to $44 million in 2018–2019. Notably, the 2020–2021 value of $87 million in claims paid is high compared with the levels in the last decade; however, the value of claims is still lower than recession levels when total claims paid averaged $102 million from 2007–2008 to 2009–2010.[9]

Figure 4 also presents the ratio of claims paid to the value of the outstanding loan portfolio, which provides a metric for assessing relative losses. The ratio showed a declining trend, falling from 2.5% in 2014–2015 to a low of 1.2% in 2018–2019. However, the COVID-19 pandemic in 2020–2021 led to a notable increase in the share of claims paid relative to the value of the outstanding loan portfolio, rising to 2.1%. Subsequently, it experienced a slight decline to 1.9% in 2021–2022. Notably, the current value of the ratio remains relatively low compared with the average of 3.4% from 2009–2010 to 2011–2012. This is attributed not only to historically low values of claims paid in recent years but also to steady increases in the value of the outstanding loan portfolio since 2009–2010.

[9] These values are not shown in Figure 4, but are available in Seens (2015).

Figure 4: Claims paid on CSBFP loan defaults ($, thousands)



Sources: Internal CSBFP database; and author's calculations.

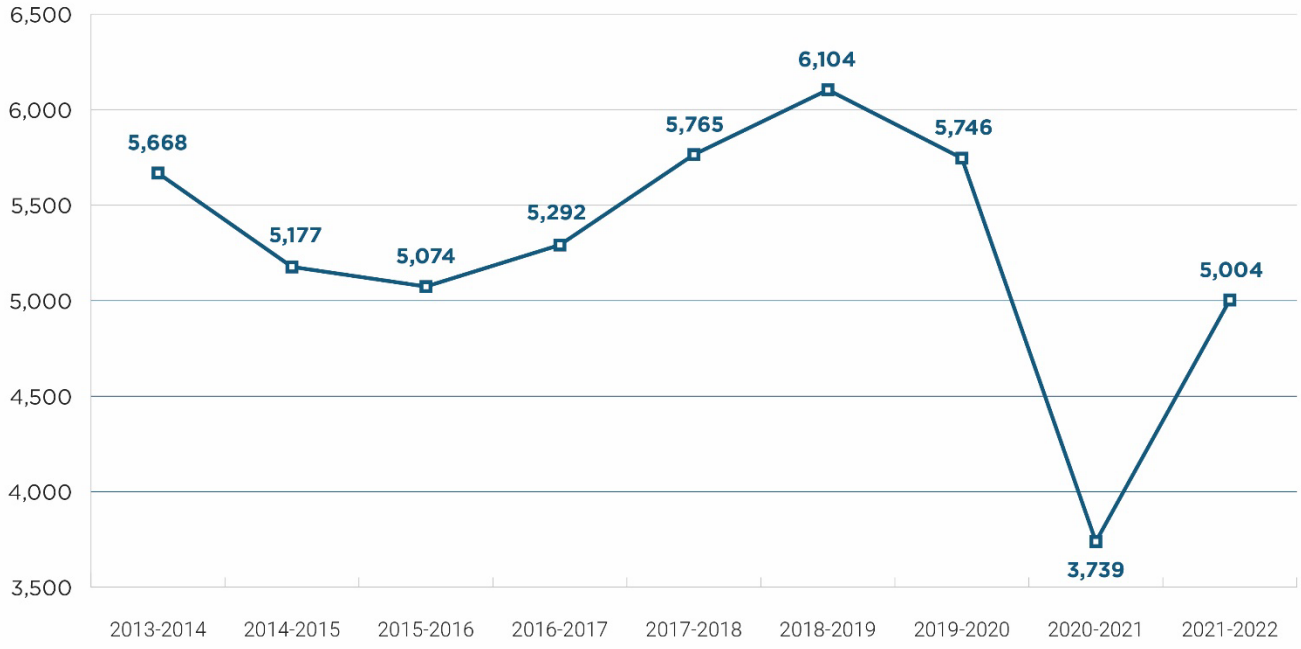
Over the course of 9 years, the number of new loans issued displayed fluctuations. In 2013–2014, 5,668 loans were issued, declining to 5,004 by the end of the period in 2021–2022 (Figure 5), indicating a 12% decrease in the total number of loans issued.

Notably, the year 2020–2021, which coincided with the onset of the pandemic, experienced the most significant decrease, with the number of loans issued plummeting to 3,734.

Between 2013–2014 and 2015–2016, the number of loans saw an 11% decline.

Subsequently, from 2016–2017, loan issuance increased by 20%, peaking at 6,104 loans in 2018–2019. However, the number of loans issued declined in both 2019–2020 and 2020–2021 by 6% and 35%, respectively. The most recent year within the examined period, 2021–2022, witnessed a recovery of 34%, bringing the loan count to 5,004.

Figure 5: Total number of loans made



Source: Internal CSBFP database.

Figure 6 illustrates the distribution of claims paid across various sectors. The analysis emphasizes the accommodation and food services, retail trade, manufacturing, and personal care services sectors, as these sectors comprise the majority of CSBFP borrowing. Together, these sectors accounted for 80% of the total value of claims paid in 2021–2022.

Specifically, the breakdown of claims is as follows:

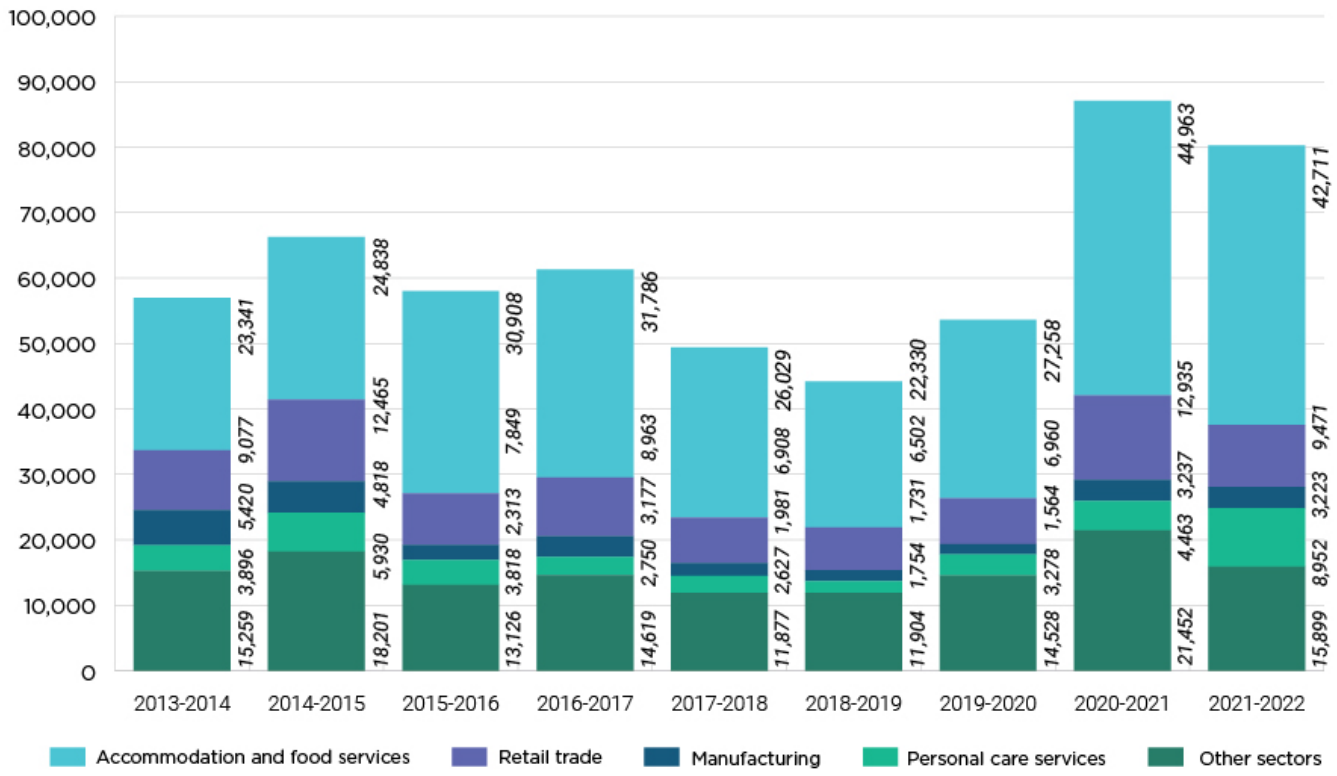
53%
Accommodation and food services

12%
Retail trade

11%
Personal care services

4%
Manufacturing

Figure 6: Claims paid on CSBFP loan defaults, by industry sector ($, thousands)



Source: Internal CSBFP database.

Significant fluctuations in the value of claims paid across various sectors are evident between 2013–2014 and 2021–2022. The fiscal year 2020–2021 marked the peak for claims paid value within the 9-year time period, totalling $87 million. This spike is likely attributed to the impact of the pandemic.

Among the sectors, notable increases in claims paid were observed in accommodation and food services, with an initial jump in 2015–2016 followed by a more pronounced surge in 2020–2021. Similarly, the personal care services sector experienced a substantial escalation in claims paid during 2021–2022. Specifically, the claims paid in these two sectors increased by $19 million and $5 million, respectively, reaching totals of $43 million, and $9 million from 2013–2014 to 2021–2022. In contrast, the manufacturing sector experienced a decrease in claims paid, recording a decline of $2 million, resulting in a total of $3 million between 2013–2014 and 2021–2022.

Throughout the assessment period, the sectoral allocation of claims paid underwent changes. A majority of sectors experienced a decrease in the relative magnitude of claims paid in comparison with the baseline year of 2013–2014. Notably, accommodation and food was the primary driver of these distributional shifts. In 2013–2014, this sector accounted for 41% of the total claims paid; however, this proportion surged to 53% by 2021–2022.

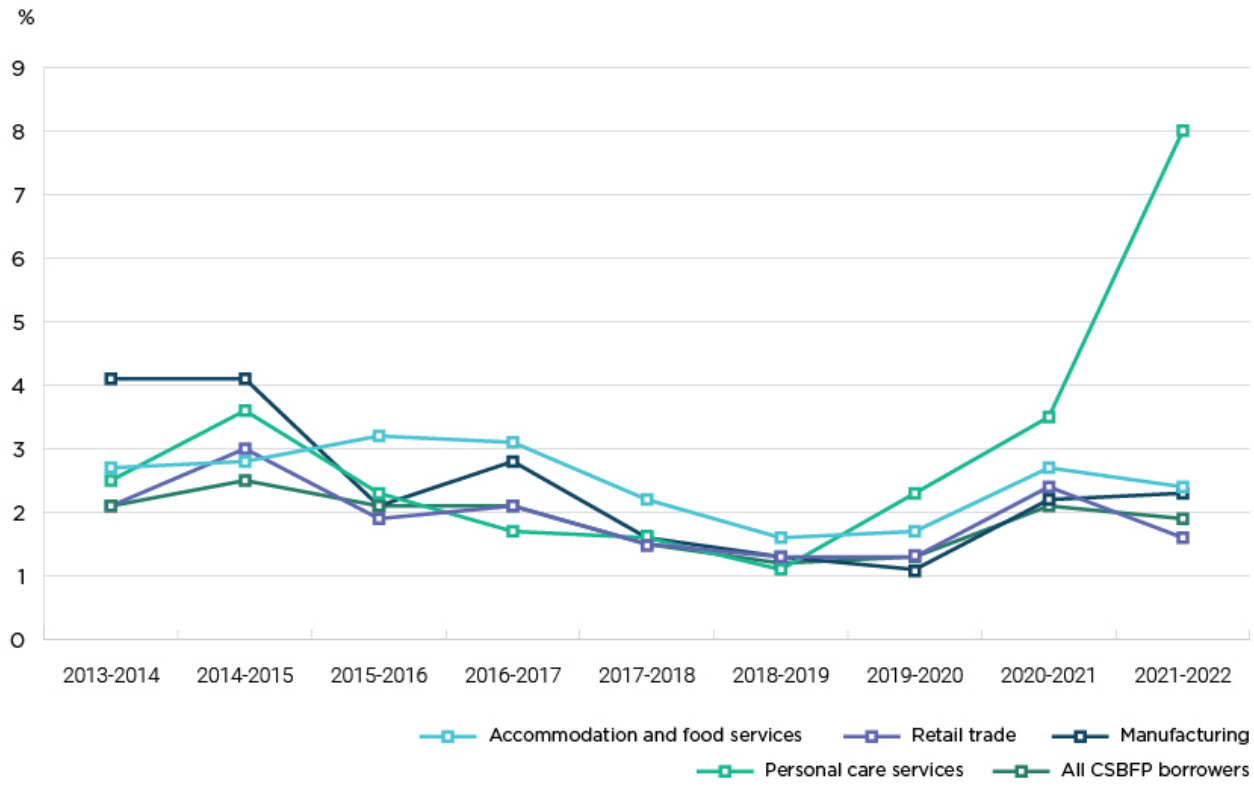
Conversely, the proportion of claims paid attributed to the manufacturing sector declined from 10% in 2013–2014 to a modest 4% in 2021–2022.

Figure 7 offers insights into the distribution of CSBFP claims paid across sectors, relative to the value of the outstanding loan balance for that industry sector, which displayed a declining trend before the onset of the pandemic. In 2021–2022, the personal care services sector stood out prominently, accounting for 8%, surpassing the average share for all CSBFP borrowers, at 2.1%. Similarly, accommodation and food services (2.4%) and manufacturing (2.3%) also exhibited higher shares compared to the average, while the retail trade sector recorded a lower share at 1.6%.

Furthermore, Figure 7 illustrates notable changes in claims paid as a proportion of the outstanding loan portfolio over time. Generally, the shares decreased from their peak in 2013–2014 until 2019–2020 across most sectors. By 2021–2022, most shares of the outstanding loan portfolio declined in comparison with 2020–2021, except for manufacturing and personal care services sectors. Within the goods-producing sector, considerable declines in shares were observed in construction and natural resources and mining, while the decrease in manufacturing was relatively modest. In the service-producing sector, the share for accommodation and food services slightly decreased from 2.7% in 2013–2014 to 2.4% in 2021–2022.

The personal care services sector, in comparison with other industries, displayed significant shifts in claims paid as a percentage of outstanding loans over time. Specifically, an increase of 5.6% is observed compared with 2013–2014, when claims paid as a percentage of the outstanding loan portfolio was 2.5%.

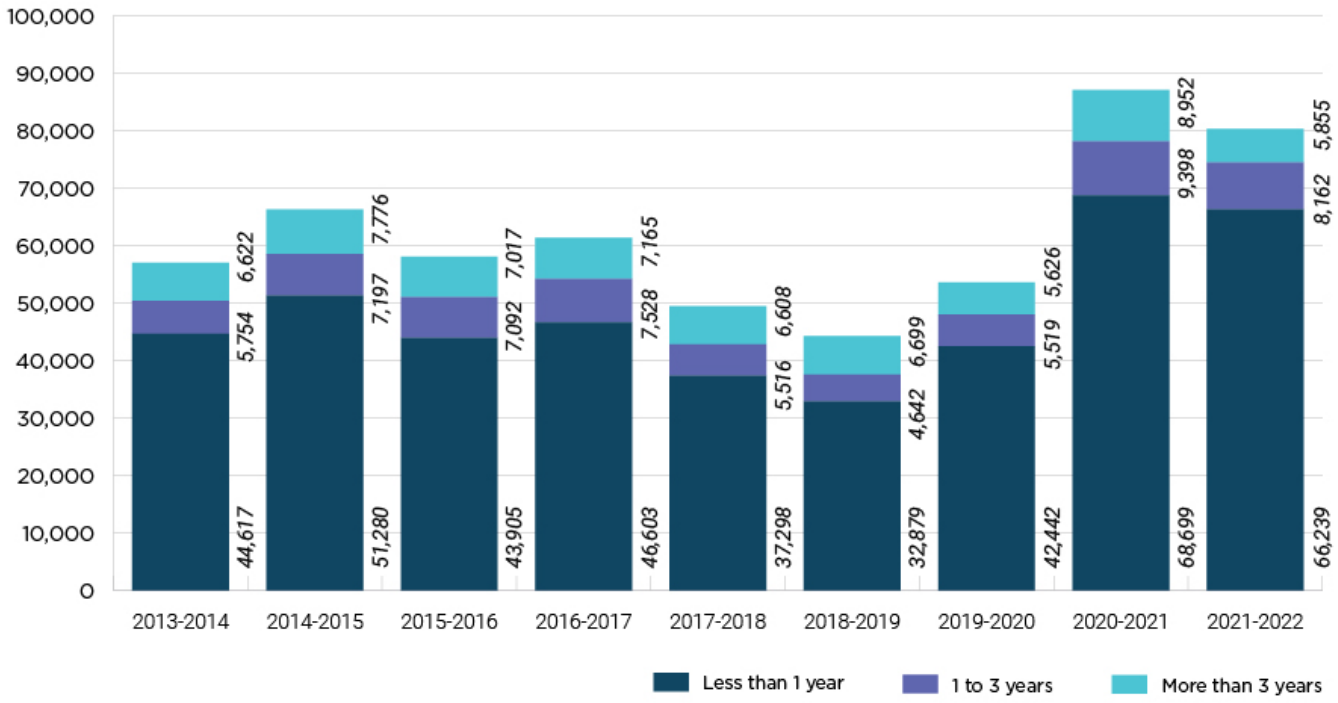
Figure 7: CSBFP claims paid as a share of the outstanding loan portfolio, by industry sector relative to the outstanding loan balance for that sector



Source: Internal CSBFP database.

Figure 8 illustrates the distribution of claims paid based on the age of firms. In 2021–2022, CSBFP claims paid for loans issued to borrowers in operation for less than 1 year amounted to $66 million, accounting for 83% of total claims paid. Claims paid for firms between 1 and 3 years old and firms operational for more than 3 years constituted 10% ($8 million) and 7% ($6 million) of the total claims paid, respectively. The corresponding percentage shares of claims paid relative to the outstanding loan portfolio for the same year were 2.4%, 1.4%, and 0.6%, although these percentages are not shown in the figure.

Figure 8: Claims paid on CSBFP loan defaults, by age of firm ($, thousands)



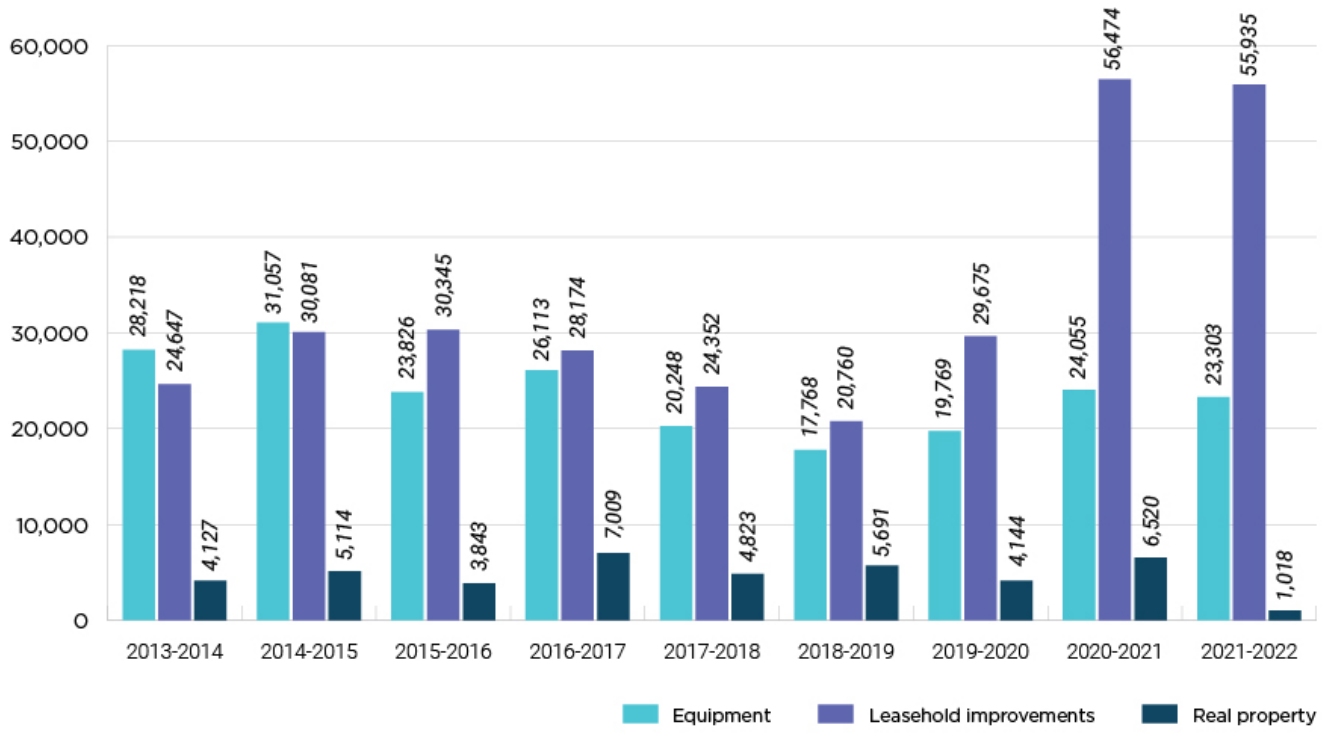
Source: Internal CSBFP database.

The values of claims paid for all three firm age categories exhibited fluctuations over the 9-year period, ending with a slight overall decline in 2018–2019 from 2013–2014. However, during the pandemic year, 2020–2021, and 2021–2022, there was a significant increase, particularly for borrowers in operation for less than 1 year, where the value of claims paid during each of these two years exceeded $66 million.

Figure 9 depicts the claims paid on loan defaults categorized by asset type. In 2021–2022, claims for equipment loans amounted to $23 million, representing 29% of total claims paid. Claims for leasehold improvements accounted for $56 million, comprising 70% of total claims paid, while claims for real property loans represented $1 million or 1% of total claims paid.

Figure 9 highlights the increase in claims paid on loan defaults after the pandemic, with a shift in lending focus towards leasehold improvements and a decline in equipment-related claims. This shift resulted in two significant changes in claims. First, the total value of claims paid increased dramatically, both in absolute terms and relative to total lending. Second, the distribution of claims paid by asset type shifted significantly, with the share of claims on loans for leasehold improvements increasing from 43% in 2013–2014 to 70% in 2021–2022. Conversely, the share of claims on loans for equipment decreased from 50% in 2013–2014 to 29% in 2021–2022. Claims paid on real property loans remained relatively stable over time, although this number decreased considerably to 1% in 2021–2022 from 7% in 2013–2014.

Figure 9: Claims paid on CSBFP loan defaults, by asset type ($, thousands)



Source: Internal CSBFP database.

4.5. Loan default costs to lenders

The CSBFP operates with a government-to-lender loss-sharing ratio of 85% to 15%.[10] Consequently, if borrowers default on their loans, lenders are accountable for 15% of the incurred losses. The CSBFP calculates the claims paid to lenders based on the remaining loan amount after all realizations. To be eligible for payment, a default loan must not surpass the Minister's liability limit and should meet all the documentation requirements. In our analysis, only claims related to eligible losses are considered.

Using data from the CSBFP database, yearly loan default costs to lenders are determined as:

- 15% of eligible losses.

Findings

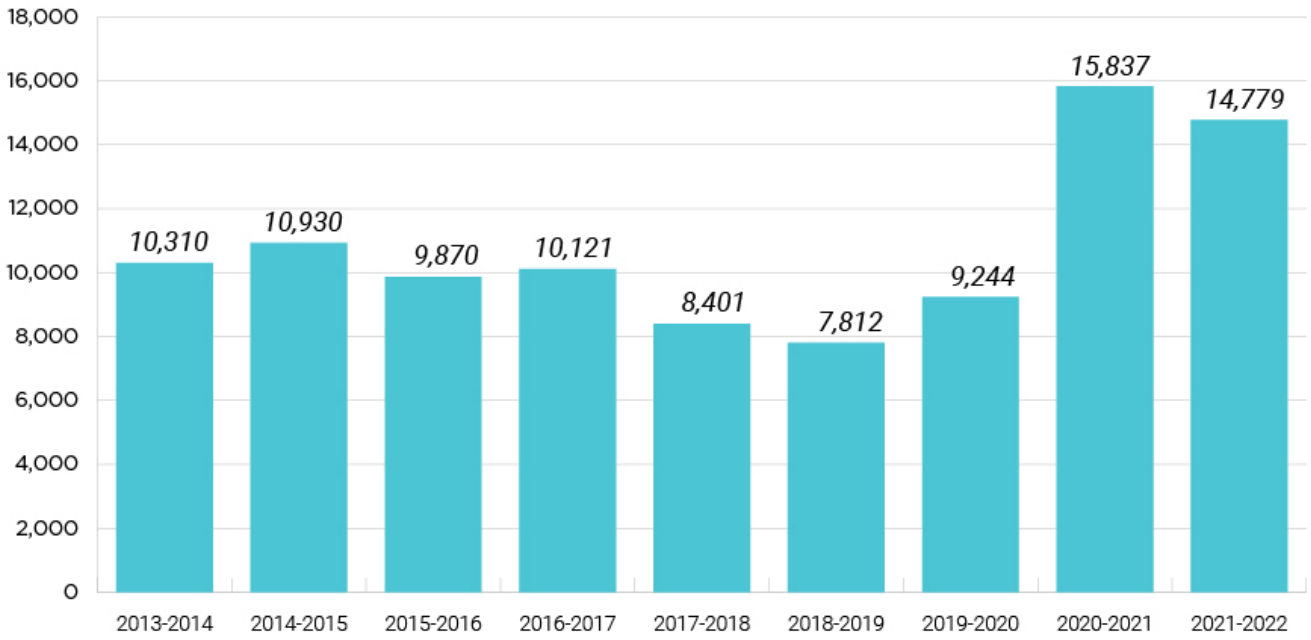
Loan default costs to lenders

The findings from this analysis indicate that the lenders' portion of eligible losses totalled $97 million from 2013–2014 to 2021–2022, with an average of $11 million annually (as shown in Figure 10). These costs are directly tied to claims that were paid out. A significant increase in default costs for lenders was observed during the years impacted by the pandemic.

Specifically, default costs escalated from $9 million in 2019–2020 to $16 million and $15 million in 2020–2021 and 2021–2022, respectively. In the earlier years, default costs remained steady, averaging $10 million per year between 2013–2014 and 2016–2017.

[10] As outlined in the CSBFP guideline https://www.ic.gc.ca/eic/site/csbfp-pfpec.nsf/eng/h_la03133.html.

Figure 10: Loan default costs to lenders ($, thousands)



Source: Internal CSBFP database.

5. CANADA SMALL BUSINESS FINANCING PROGRAM BENEFITS

In this section, the benefits of the CSBFP are estimated. The economic impacts resulting from the CSBFP include additional new investment, job creation, and government revenue. Here, these benefits are presented without accounting for the incrementality of the program.[11]

Economic activity resulting from CSBFP loans includes the following:

- Administrative and direct operating expenditures by lenders
- Profits from interest on loans
- Salaries and wages paid by borrowers
- Impacts on Gross Domestic Product (GDP), encompassing both direct and indirect effects
- Registration and administration fees collected by ISED

5.1. Administrative and direct operating expenditures by lenders

In cases where lenders participate in CSBFP lending, the process often leads to job creation as they incur additional staffing costs. This could involve the hiring of specialized CSBFP staff, or in situations where CSBFP loans increase overall commercial lending, additional staff might be necessary to manage the heightened workload.

However, data limitations preclude precise quantification of the salaries, wages, and benefits associated with these newly created positions. This data gap arises because lenders typically maintain only a small number of staff dedicated exclusively to CSBFP lending. They also do not systematically track the allocation of time spent on program loans by all staff members engaged in administering various commercial loans, including both CSBFP loans and other commercial loans. Furthermore, as noted in the 2009 CSBFP cost-benefit analysis (KPMG 2009), lenders themselves indicate that any additional hiring in this context is limited and would not significantly impact the overall estimate of net program benefits.

Similarly, the expenses incurred by lenders to facilitate the administration of CSBFP loans, such as legal fees or investments in information technology systems, contribute to economic activity. Nonetheless, similar to above, lenders lack comprehensive data to provide a precise estimate of the expenditures linked to CSBFP administration. This data gap is due to the relatively modest scale of such expenditures, which would not exert a significant influence on the broader analytical framework.[12]

[11] Incrementality adjustments are discussed in section 6.

[12] The 2015 CSBFP cost-benefit analysis (Seens 2015) notes that administrative and direct operating expenditures could alternatively represent program costs, rather than program benefits. However, the limited magnitude of these expenditures means that whether they are treated as costs or benefits does not significantly impact the overall analysis

5.2. Profits from loan interest

The CSBFP Guidelines place restrictions on the interest rates that lenders can apply to CSBFP loans. These restrictions come in three forms: 1) the prime lending rate plus 3% for variable rate term loans, 2) the single-family residential mortgage rate plus 3% for fixed rate term loans, or 3) the prime lending rate plus 5% for lines of credit.[13]

Additionally, ISED charges a quarterly administration fee of 1.25% on outstanding loan balances, a fee that lenders must remit. The difference between the interest rates charged by lenders and the administration fees collected by ISED constitutes the revenue generated by lenders. This revenue, after accounting for capital costs and administration fees, contributes to the calculation of loan interest profits.

To determine the annual revenue rate for loan interest, loan data sourced from the CSBFP database and interest rate data obtained from the Bank of Canada are utilized. The annual revenue rate for loan interest is calculated using the following estimation process:

- *Add* the average interest rate charged above prime (CSBFP database).
- *Add* the prime rate (Bank of Canada).
- *Subtract* the administration fee of 1.25 percentage points.
- *Subtract* the cost of funds, measured as the five-year Government of Canada benchmark bond yield (Bank of Canada).
- *Multiply* the resulting rate by the outstanding balance of CSBFP loans documented in the CSBFP database.

Findings

Profits from loan interest

Table 1 shows that the interest rate increased in 2018–2019 and 2019–2020, driven by the increase in the average prime rate in those years, as the Bank of Canada decided to raise its overnight rate, responding to robust economic expansion and increased inflation, primarily attributed to elevated gasoline prices.[14] In subsequent years, from 2020 to 2022, marked by the economy's reactions to the pandemic-induced impact, the Bank of Canada adopted a strategy of reducing its overnight rate by a total of 1.5 percentage points.

Consequently, the prime rate in 2020–2021 and 2021–2022 registered notably lower levels. Throughout these fluctuations, the interest rates on CSBFP loans consistently maintain a positioning at 3 percentage points above the average prime rate, aligning with the upper limit outlined in program guidelines.

[13] The line of credit option for the CSBFP was introduced in July 2022; therefore, it was not included in the annual revenue rate for loan interest calculations.
[14] See Monetary Policy Report—October 2017 (bankofcanada.ca)

Table 1: Estimated average interest rate charged

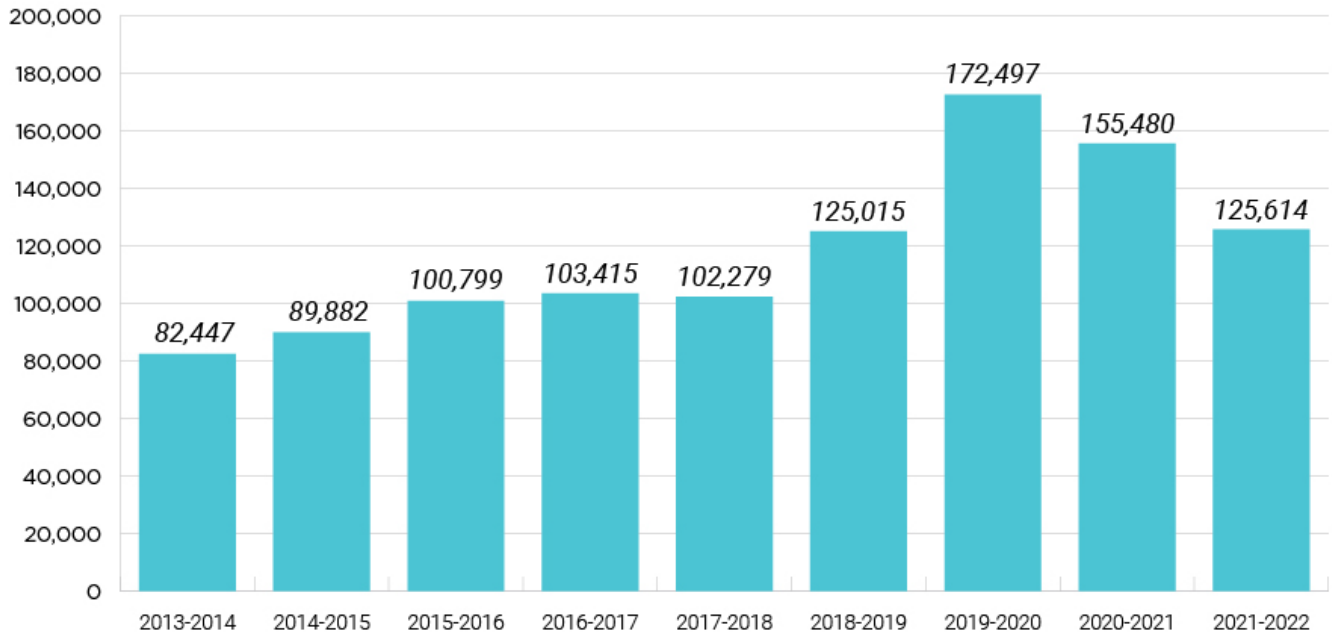
	2013–2014	2014–2015	2015–2016	2016–2017	2017–2018	2018–2019	2019–2020	2020–2021	2021–2022
Average prime rate (%)	3.00	2.96	2.75	2.70	3.07	3.74	3.90	2.45	2.47
Average rate charged above prime (%)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Average interest rate charged (%)	6.00	5.96	5.75	5.70	6.07	6.74	6.90	5.45	5.47
Cost of funds to lender (%)	1.69	1.33	0.81	0.87	1.62	2.06	1.36	0.47	1.31
Revenue rate (%)	3.06	3.38	3.69	3.58	3.20	3.43	4.29	3.73	2.91

Note: Revenue rate = average interest charged − cost of funds − 1.25%.
Sources: Internal CSBFP database; Bank of Canada; and author's calculations.

The revenue rate on CSBFP loans exhibited a relatively consistent pattern over the 9-year period, as increases in the average interest rate charged were largely offset by corresponding increases in the cost of funds. As illustrated in Figure 11, interest income showed a gradual increase over time, with an average annual interest income of $117 million observed from 2013–2014 to 2021–2022.

Interest income peaked in 2019–2020 at $172 million, and this elevated level persisted into 2020–2021, at $155 million, remaining notably higher compared with other years in the same 9-year period.

Figure 11: Interest income to lenders on CSBFP loans ($, thousands)



Sources: Internal CSBFP database; Bank of Canada; and author's calculations.

5.3. Profits for CSBFP borrowers

Another avenue for increased economic activity resulting from the CSBFP lies in the potential for borrowers to achieve higher profits through their investments facilitated by program loans. However, deriving a precise estimate of this impact poses challenges due to limited empirical evidence.

Previous economic impact analyses of the CSBFP conducted in 2004, 2008, 2010, and 2014 did not yield substantial evidence indicating a significant profit increase directly resulting from CSBFP participation. While the 2019 economic impact analysis by Huang and Rivard (2019) suggests a notable increase in profits attributed to CSBFP loans between 2014 and 2016, extrapolating these results to other years or the broader 2014 CSBFP borrower population is not straightforward.

Currently, an ongoing economic impact analysis is investigating whether these microeconometric results hold true in more recent years. However, based on the available evidence, it appears unlikely that such profit increments would be substantial enough to significantly influence the overall estimate of the net social benefit derived from the program.

5.4. Employment creation by borrowers

Expectations of employment creation within firms

When borrowers apply for CSBFP loans, they are required to provide information, including the number of additional employees they anticipate hiring (measured in full-time equivalent positions) as a result of the loan.[15] It is important to note that these figures are prospective, representing expectations of, rather than actual, employment creation.

To calculate the annual number of anticipated new job positions that borrowers expect to generate through their CSBFP loans, data extracted from the registration forms in the CSBFP database are used in the following estimation process:

- *Add* the self-reported number of jobs that borrowers anticipate creating directly as a result of CSBFP loans (as indicated on loan registration forms).
- *Divide* the estimated number of jobs by the total count of CSBFP loans to get the estimate of employment creation per loan.

Findings

Employment creation by borrowers

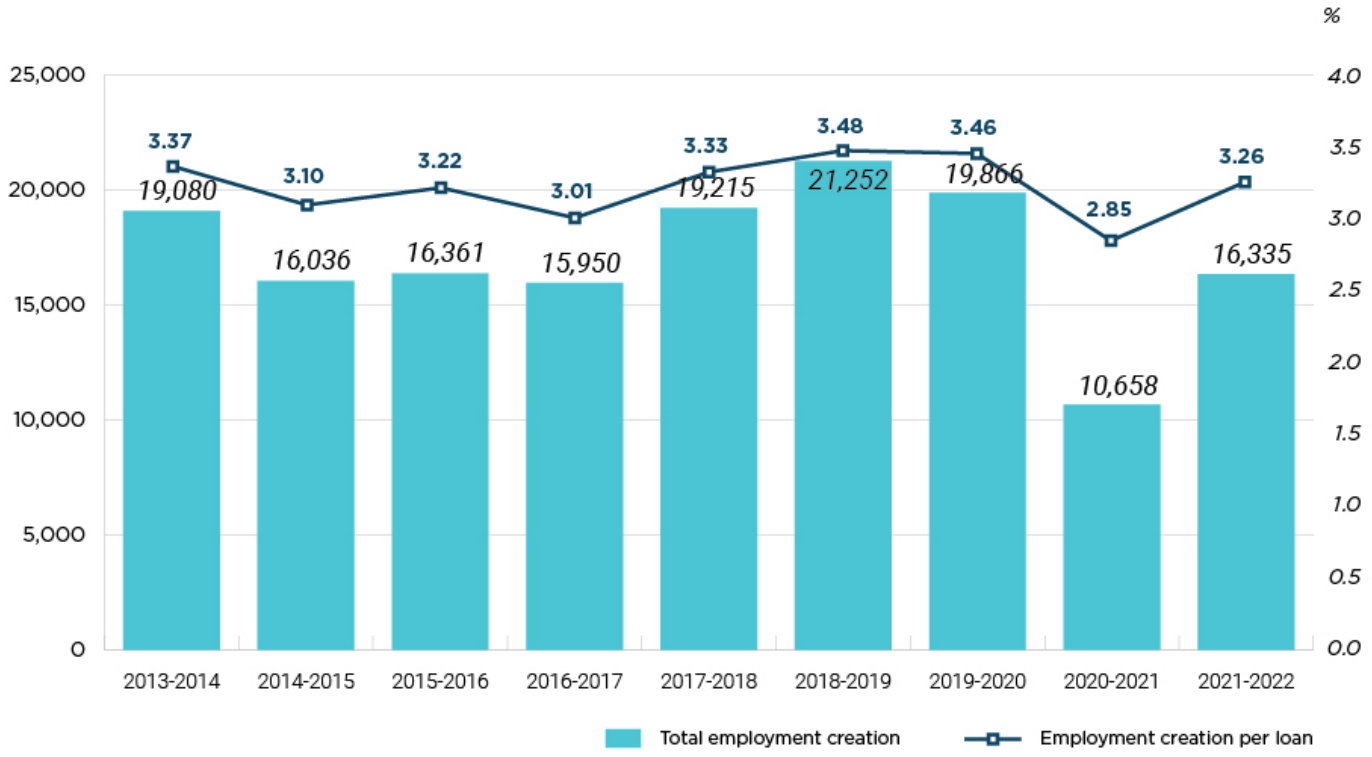
CSBFP borrowers reported that for the nine years from 2013–2014 to 2021–2022 their loans would directly contribute to the hiring of an additional 155,000 full-time employees (depicted in Figure 12). This translates to an average annual influx of 17,200 new hires. Over the course of the nine-year period, expected employment creation per loan remained fairly steady, except for 2020–2021, when the repercussions of the pandemic resulted in a noticeable decline of more than 17% in the average expectations. More precisely, the average count of employees hired per loan dropped from 3.46 in the preceding year to 2.85, mirroring the substantial drop in loan activity from an average of 5,500 in the years leading up to the pandemic to 3,739 in 2020–2021.

While loan activity displayed fluctuations during the nine-year period, with a marginal decrease from 5,668 loans in 2013–2014 to 5,004 in 2021–2022 (illustrated in Figure 5), borrowers concurrently exhibited an upward trend in their projected numbers of new hires resulting from CSBFP loans. On average, they foresaw 3.37 new employees per loan in 2013–2014, experiencing a minor reduction to 3.26 new employees per loan in 2021–2022.

[15] Note that while job creation expectation figures are of interest in the context of quantifying the economic benefits of the program, in the overall valuation of the net social benefit of the CSBFP, the appropriate metric is salaries and wages paid to actual (rather than expected) net hires—these figures are discussed below.

Economic conditions, which broadly align with the trajectory of borrowers' job creation expectations, might have played a role in the diminished average projections of employment creation. Notably, the impacts of the pandemic contributed to an overall decrease in anticipated hiring expectations.

Figure 12: Total expected employment creation and expected employment per loan



Sources: Internal CSBFP database; and author's calculations.

Salaries and wages for within-firm employment creation

Although the number of jobs that borrowers expected to create through CSBFP loans is a pivotal measure of the program's economic contribution, cost-benefit analysis requires dollar-value figures for costs and benefits to estimate the net social benefit. To quantify the economic value of within-firm employment creation in dollar terms, the appropriate metric is salaries and wages paid to employees hired by borrowers as a direct result of CSBFP loans.

As mentioned above, the CSBFP registration form provides insights into employment expectations. To transition from anticipated employment to actual employment figures, this analysis applies two assumptions to generate a conservative estimate of the latter figure.

First, a displacement rate of 50% is posited, as not all new hires by borrowers lead to genuine job creation in the broader economy, as some individuals may merely switch employers.[16] Second, the anticipated net jobs created are further reduced as the number of employees actually hired may fall short of the projected figure. Historical data from previous economic impact analyses conducted in 2010, 2014, and 2019 (Chandler 2010; Song 2014; Huang and Rivard 2019) suggested a ratio of actual to expected hires that is significantly less than one. Consequently, this analysis applies a 50% reduction to the projected net jobs created to estimate net job creation.

Using consumer price index (CPI) data from Statistics Canada and estimates of average salaries and wages from prior cost-benefit analyses conducted in 2009, 2015, and 2019 (KPMG 2009; Seens 2015; Huang and Rivard 2019), the average annual salaries and wages paid to new employees hired by CSBFP borrowers are estimated as:

- **Average salaries and wages of CSBFP borrowers:** This analysis uses the estimates derived from previous analyses (Huang and Rivard 2019) adjusted by the CPI.[17]

Average salaries and wages is then multiplied by 25% of the jobs expected to be created by CSBFP borrowers to obtain estimates of total salaries and wages paid to net new employees hired by borrowers as a result of CSBFP loans.

Findings

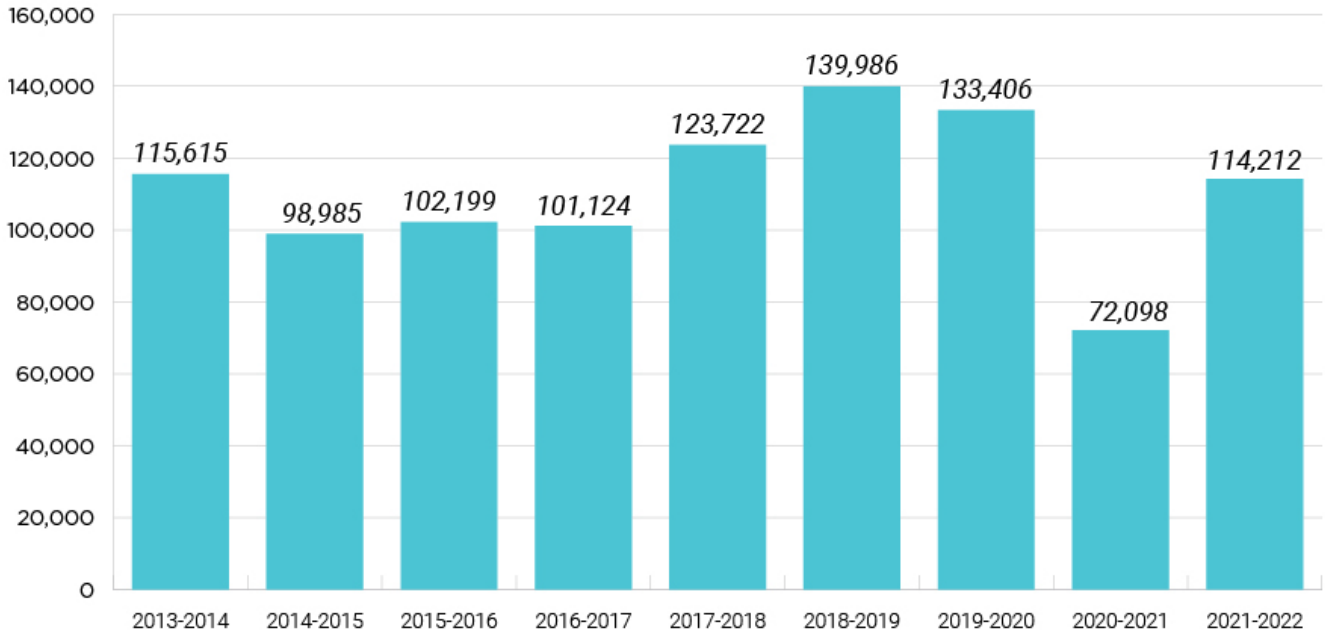
Salaries and wages paid to new employees by CSBFP borrowers

Using the applied methodology, estimates of salaries and wages paid to new employees of CSBFP borrowers demonstrate a nearly proportional alignment with the trend described above in expectations of total employment creation. Total salaries and wages for employees hired through CSBFP loans exhibited a gradual upward trajectory from 2013–2014 until 2020–2021 (Figure 13). This period, significantly influenced by the pandemic, saw a significant decline in job creation expectations, followed by a subsequent recovery in 2021–2022.

[16] The 2019 CSBFP cost-benefit analysis (Huang and Rivard 2019) assumes a 50% displacement rate. This analysis uses the same rate for consistency between analyses.

[17] This approach may be considered conservative since the previous estimates suggested average salaries substantively lower than, for example, indicated by the Survey on Employment, Payroll and Hours. One reason to use a conservative estimate of average salaries may be that the sectoral distribution of CSBFP borrowers suggests the composition of jobs created due to CSBFP lending may include a higher proportion of jobs in sectors where salaries tend to be lower, such as the Accommodation and Food Services sector.

Figure 13: Estimated salaries and wages paid to new employees of CSBFP borrowers ($, thousands)



Sources: Statistics Canada; internal CSBFP database; and author's calculations.

5.5. Macroeconomic impacts of investment by CSBFP borrowers

Businesses benefiting from the CSBFP allocate the funds they receive toward a variety of investments. This increases overall demand within the economy for assets such as machinery, equipment, real estate, and leasehold improvements. As a result of this increase in demand, GDP and employment increase. To estimate the macroeconomic impact of CSBFP financing, our analysis uses Statistics Canada's Input—Output (IO) Model, which is based on data from Statistics Canada's Supply and Use Tables (SUTs).[18]

The analysis presents two GDP impacts; direct and indirect, along with their effects on job creation.[19] Direct impacts measure the impact of increased production and imports necessary to meet the demand for investment due to CSBFP loans. Indirect impacts estimate the economic activity resulting from increased production by industries providing the intermediate inputs used by directly impacted sectors.[20]

To illustrate this concept, consider the purchase of solar panels using a CSBFP loan. In response to increased purchases of solar panels, solar panel manufacturers increase their production of solar panels. In the IO modelling framework, this expanded production is the direct impact.

[18] Note that inclusion of these macroeconomic impacts implicitly assumes no social opportunity cost of CSBFP loans to lenders or to the Government of Canada; that is, lenders would not otherwise be making loans to other borrowers, and the Government of Canada would not otherwise be spending funds used for CSBFP operating expenditures or claims on other programs.
[19] In an IO framework, basic price valuation removes taxes and subsidies from market prices.
[20] In the estimates of direct and indirect GDP impacts, we assume that supply of productive factors, such as labour, capital and raw materials, is both available and perfectly elastic (such that factor prices do not increase in response to higher demand).

Indirect impacts, on the other hand, result from increased production by companies that supply the manufacturers of inputs to solar panel manufacturing, such as producers of specialized glass; as the demand for solar panels grows, the solar panel manufacturers place larger orders for these intermediate inputs. This upstream economic activity by suppliers to solar panel manufacturers, such as producers of specialized glass, is the indirect impact.[21] By applying GDP and labour to output ratios to the direct and indirect impacts, the GDP impacts and the corresponding employment generation beyond the firm can be estimated.[22]

Integrating data from various sources, annual direct and indirect GDP impacts and their respective job creation are calculated in the following estimation process:

- **Distributing demand by industry, provinces, and asset type (CSBFP Database):** The upsurge in demand (i.e., new spending in the economy) corresponds to the total value of loans issued, deducting registration fees. Utilizing data from the CSBFP database, the net loans issued, categorized by industry, province, and asset type are calculated. These categories encompass various elements, such as equipment, leasehold improvements, and real property.
- **Allocating demand by commodity (Statistics Canada SUTs):** To align with the commodity-oriented framework of the IO model, the demand shock is distributed by commodity. This allocation is based on patterns of investment spending across industries, as obtained from the SUTs published by Statistics Canada. This step compensates for the lack of granular data in the CSBFP database.[23]
- **Incorporating the demand shock:** The value of net loans issued, segmented by industry, province and commodity, is entered into the model as a demand shock.
- **Input-output modelling:** Macroeconomic impacts attributable to the demand shock generated by CSBFP lending are simulated using Statistics Canada's IO model.

Following previous cost-benefit analyses conducted in 2015 (Seens 2015) and 2019 (Huang and Rivard 2019), macroeconomic impacts are estimated assuming that 100% of a CSBFP loan amount directly contributes to economic activity in the year it is disbursed. However, it is important to note that this assumption yields an estimate that should be considered as an upper limit. This is due to the fact that loans designated for real property or leasehold improvements may not necessarily result in additional production if the property is acquired in its current condition or if leasehold improvements already exist.

[21] The estimates are likely to be modest for two main reasons. First, this analysis uses the "open" version of the IO model instead of the "closed" IO model. In an open model, there is no connection between factor incomes (to labour and capital) and household demand or investment. As a result, wages paid to the additional labour impact required for increased production are not fed back into the economy as additional household spending. A closed model includes the impact induced by linking factor incomes and household demand and investment. The estimates in this analysis, in this sense, likely underestimate the overall macroeconomic impact of CSBFP loans. Second, the IO model is a static model and, therefore, does not consider impacts in years subsequent to demand shocks. This likely understates the impacts over time.

[22] Note that these job creation estimates represent economic activity corresponding to, rather than in addition to, GDP impacts. For this reason, neither the job creation estimates nor the estimated salaries and wages paid to new employees are included in the calculation of the overall net benefit of the CSBFP.

[23] For the most recent years 2018–2019 to 2021–2022, GDP impact estimates are based upon the 2019 IO model and commodity patterns from the 2019 SUTs. 2013–2014 to 2016–2017 was run using 2014 IO model, and 2017–2018 was run using 2018 IO model.

The 2019 cost-benefit analysis by Huang and Rivard (2019) followed a similar approach as KPMG (2009) to address this issue, assuming that only 50% of loan amounts used for real property and pre-existing leasehold improvements had an effect on GDP.[24]

To adopt a more conservative approach, the estimates are refined based on previous studies. Specifically, lower-bound estimates for each year are calculated using the following estimation process:

- **Lower bound ratio ratio** is computed as the sum of 1) half the ratio of new loans for real property (RP) and for existing leasehold improvements (ELI) to all new loans (NL) and 2) the ratio of new loans for new leasehold improvements (NLI) and for equipment (EQ) to all new loans, where ELI is estimated, following KPMG's (2009) assumptions, at 23% of all loans for leasehold improvements, i.e.,

$$lower\ bound\ ratio_t = \left(0.5 \times \frac{RP_t + ELI_t}{NL_t}\right) + \frac{NLI_t + EQ_t}{NL_t}.$$

- **Lower bound estimates** are then calculated by multiplying the lower bound ratio by the upper bound estimate.[25]

Findings

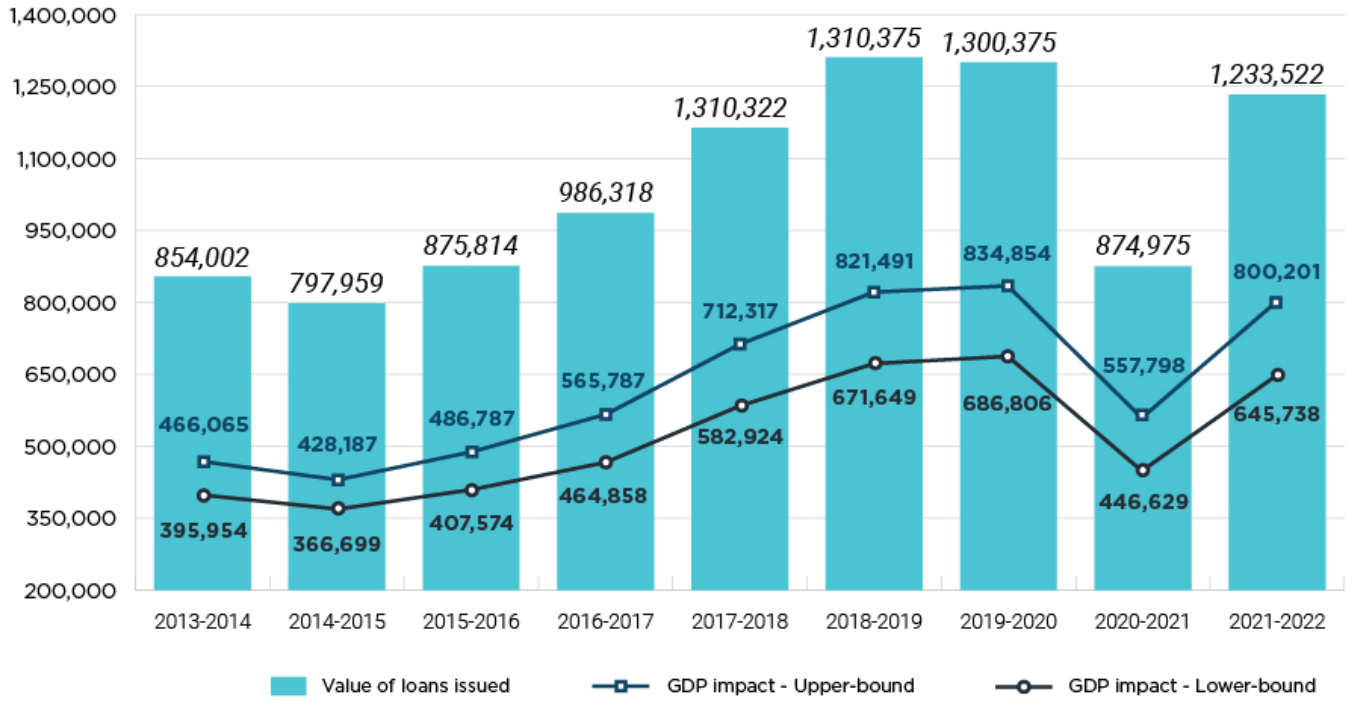
GDP impacts

In 2021–2022, borrowers accessed $1.23 billion in CSBFP loans for investment in equipment, leasehold improvements and real property, contributing to an estimated additional GDP impact ranging from $646 million to $800 million (Figure 14). The trajectory of the total value of CSBFP loans had been on an upward trend until the onset of the pandemic. The year 2020–2021 witnessed a dip to a total value of loans of $875 million followed by a subsequent recovery in 2021–2022. These estimates suggest that each dollar loaned to CSBFP beneficiaries resulted in between 52 and 65 cents of additional value added to the economy. Roughly 60% of these impacts were direct (i.e., production by suppliers of the goods and services invested in by borrowers). The remaining 40% were indirect, reflecting production upstream to suppliers of the goods and services invested in by borrowers. These impacts were closely aligned with the regions where CSBFP loans were disbursed, with Ontario accounting for 45%, Quebec for 20%, and Alberta for 16% of GDP impacts. The fluctuations in impacts over time are due primarily to differences in the total value of loans extended through the CSBFP, although the rising proportion of real property loans also contributed to these shifts.

[24] Prior to 2012, the CSBFP collected data from borrowers to distinguish between the portions of loans designated for existing and new leasehold improvements. However, this data is no longer collected, as part of efforts to reduce the administrative burden.

[25] Note that replicating the KPMG treatment would apply the lower bound ratio to the demand shocks entered into the IO model, rather than to the estimates generated by the model. However, given that the IO model assumes relationships between demand and the production required to meet demand are linear, the approximation is likely fairly accurate. For example, comparing estimates of the five years that overlap between the 2009 and 2015 cost-benefit analyses (2003–2004 to 2007–2008) (KPMG 2009; Seens 2015), the average ratio of the 2009 GDP impact estimates to the 2015 GDP impact estimates is 0.87, which is equal to the ratio applied to the demand shocks used in the 2009 analysis.

Figure 14: CSBFP value of loans made and GDP impact of loans ($, thousands)



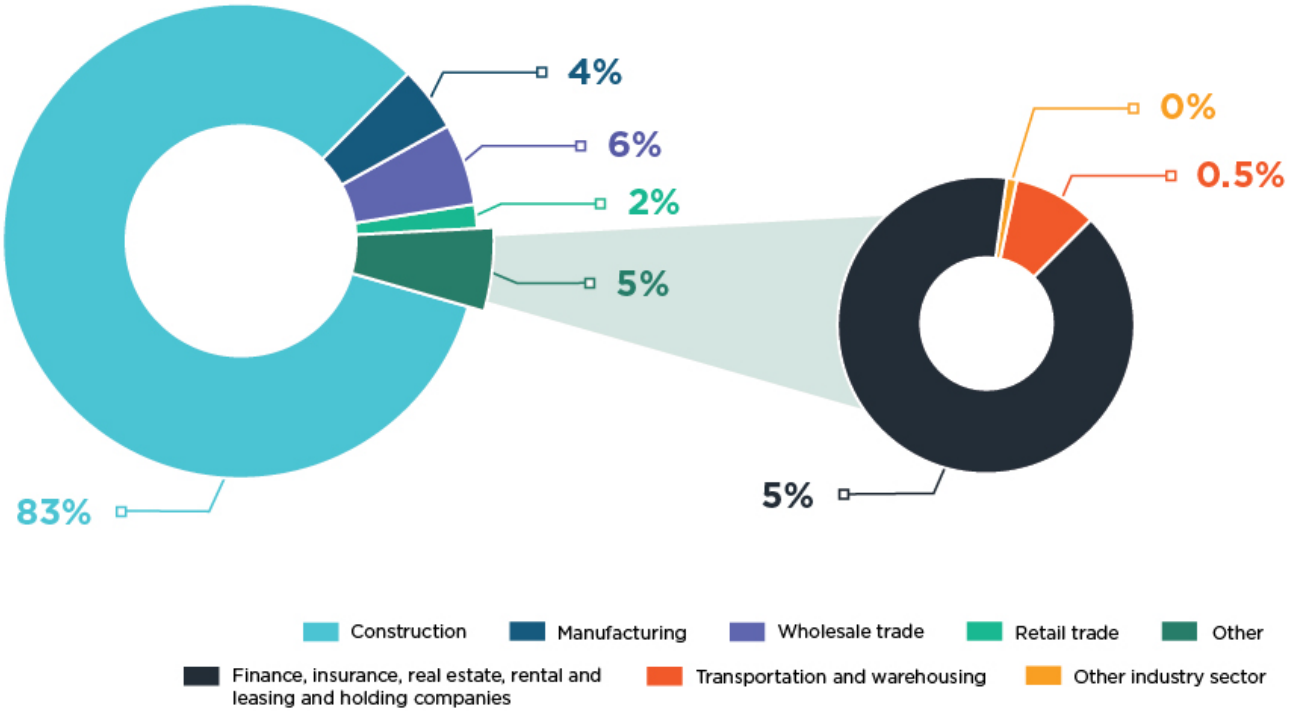
Sources: Statistics Canada, Canadian Input-Output Model; and author's calculations.

Figure 15 illustrates the sectoral distribution of direct GDP impacts for 2021–2022. Among the various sectors, the construction industry emerged as the primary beneficiary of investments made by CSBFP borrowers. A notable 83% of GDP impacts, equating to a range of $312 to $387 million, were concentrated within this sector.

The manufacturing sector also experienced a noteworthy increase, with approximately $17 to $21 million in output due to the supplementary investments.

The remaining 18% of GDP impacts were in service industries supporting the construction and manufacturing sectors. These include the wholesale trade and retail trade sectors. The distribution of GDP impacts across sectors has changed significantly over time, with the construction sector accounting for a larger proportion of GDP impacts as CSBFP loans are increasingly channelled into investment in real property.

Figure 15: Direct GDP impact, by industry sector, 2021–2022

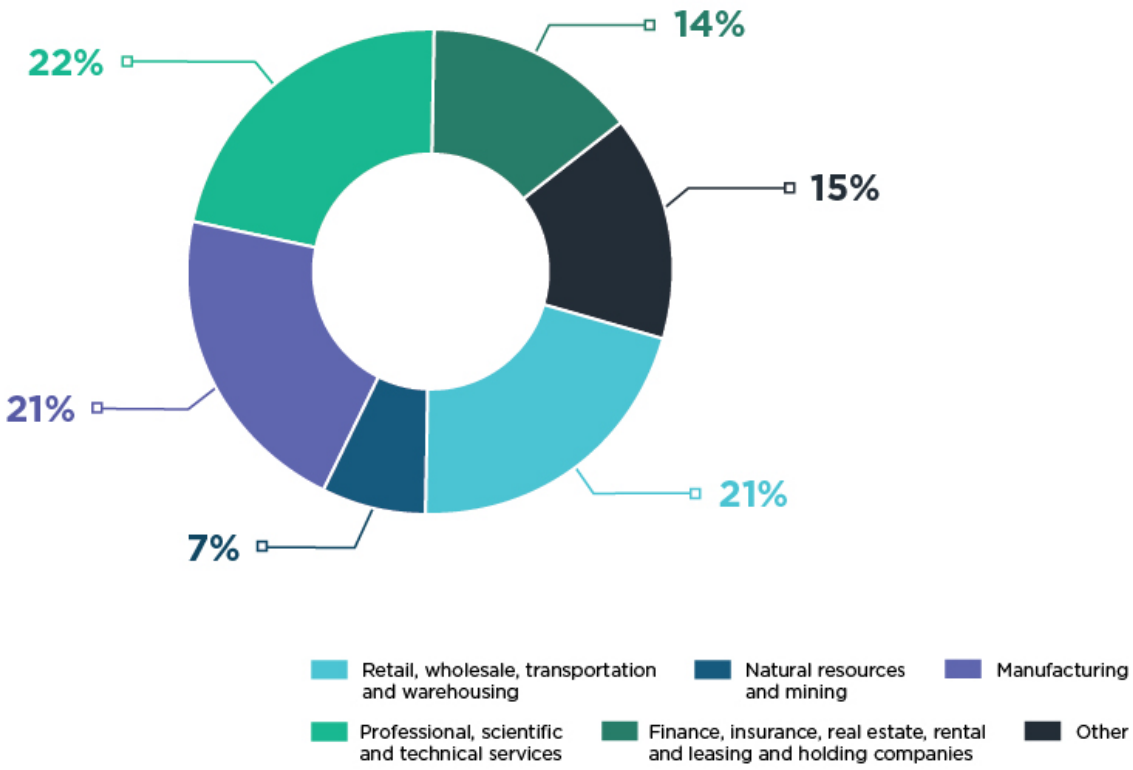


Sources: Statistics Canada, Canadian Input-Output Model; and author's calculations.

Figure 16 depicts the allocation of indirect GDP impacts across sectors for 2021–2022. This distribution highlights how inter-industry linkages result in economy-wide production in response to investments resulting from CSBFP loans. Even when direct purchases are primarily from the construction sector, the impacts of these investments extend beyond it.

The services sector serves as a prominent example of this phenomenon, contributing significantly to indirect GDP impacts. In fact, about 70% of additional upstream production is attributed to the services sector, in contrast to its share of less than 20% in direct GDP impacts. The composition of indirect GDP impacts has demonstrated a consistent pattern over the evaluated period.

Figure 16: Indirect GDP impact, by industry sector, 2021–2022



Sources: Statistics Canada, Canadian Input-Output Model; and author's calculations.

Findings

Out-of-firm employment creation

As previously mentioned, the IO model estimates provide insights into the employment generated beyond individual firms, aligning with GDP impacts. Over the nine-year evaluation period, there has been a consistent annual creation of jobs attributable to the economic activity stemming from investments by CSBFP borrowers. On average, between 4,380 and 5,320 jobs were generated each year, contributing to a cumulative total of approximately 39,430 to 47,860 jobs.[26]

[26] The number of out-of-firm employment creations in 2020/21 was significantly lower than in any other year in the 9-year period, primarily due to the profound impact of the pandemic. Consequently, this decrease in employment numbers has resulted in a decline in both the average and total number of jobs when compared with the previous cost-benefit analysis.

Findings

Taxes

The IO model also allows for specific estimates of the federal tax component associated with GDP impacts.[27] When economy-wide economic activity is triggered by lending under the CSBFP, it leads to the payment of related federal taxes, including the Goods and Services Tax and Harmonized Sales Tax. GDP impacts include these taxes and can be delineated separately. Over the nine-year evaluation period, an average annual sum ranging from $7.0 million to $8.5 million in federal taxes was collected from the additional production generated through investments by CSBFP borrowers, totalling between $62.8 million and $76.4 million.

5.6. Administration and registration fees paid by borrowers to Innovation, Science and Economic Development Canada

As previously mentioned, borrowers are subject to registration and administration fees imposed by lenders, which are subsequently forwarded to ISED. The registration fee, amounting to 2% of the total loan value, is commonly settled by the borrower upon loan registration with ISED, and it can be integrated into the CSBFP loan. Conversely, the administration fee, equivalent to 1.25% of the remaining loan value, can be incorporated into the interest rate charged to the borrower.

Using data from the CSBFP database, annual administration and registration fees are calculated as:

Registration fee:

2%

of total loans issued.

Administration fee:

1.25%

of lenders' total outstanding loan portfolio.

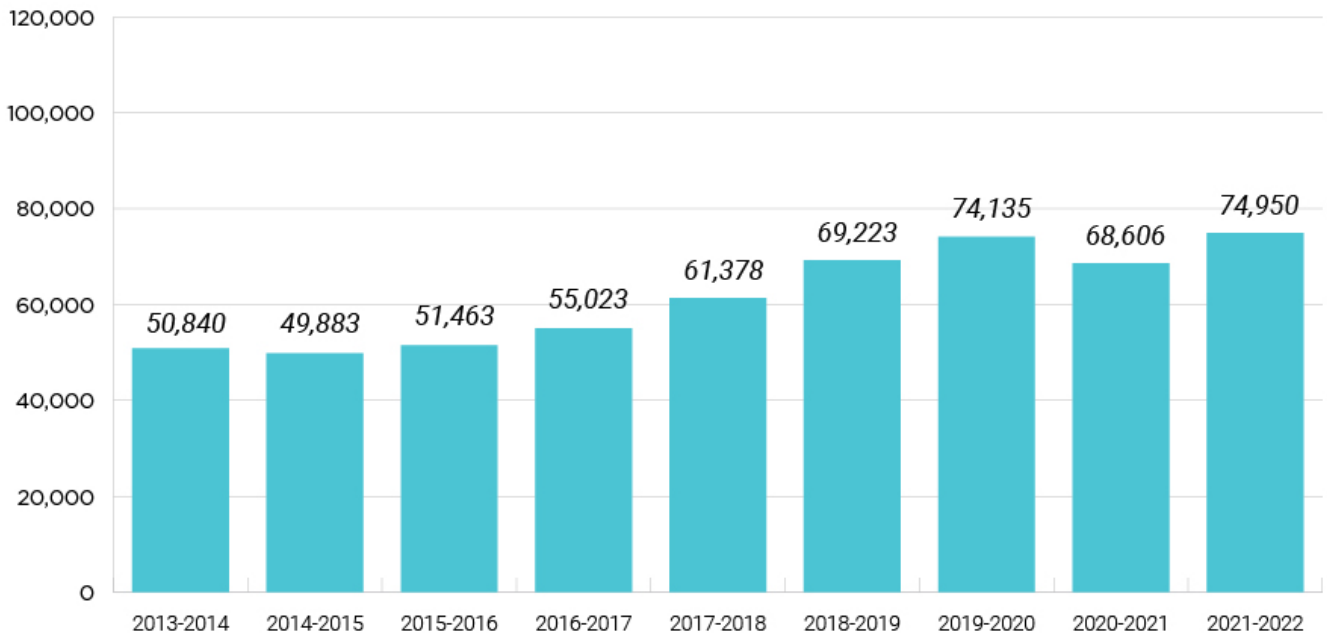
[27] Similar to the out-of-firm employment creation estimates, these federal tax component estimates represent taxes corresponding to, rather than in addition to, GDP impacts.

Findings

Administration and registration fees

From 2013–2014 to 2021–2022, the collection of registration and administration fees from the CSBFP amounted to $556 million for ISED, or $62 million per year on average (Figure 17). These fees were steady throughout the nine-year period, consistently ranging between $50 million and $75 million, even amid noteworthy macroeconomic shifts (as discussed earlier).

Figure 17: Registration and administration fees ($, thousands)



Source: Internal CSBFP database.

6. NET BENEFIT OF THE CSBFP

In this section, the present value of net social benefits attributed to the CSBFP is estimated. This involves computing the present value of total program benefits, deducting the present value of total program costs, thereby quantifying the net impact of the CSBFP on the Canadian economy. A positive net benefit indicates the program's net benefit to Canadians. Moreover, the sensitivity of the findings is explored by examining how changes in key assumptions, such as the discount rate and incrementality, influence the results. This comparison involves contrasting baseline estimates with estimates calculated using assumptions modified according to varying degrees of conservatism.

Discount rate considerations

Costs and benefits are discounted to their 2021–2022 present values. Given the retrospective nature of this analysis, discounting to 2021–2022 compounds past costs and benefits by the discount rate. For example, the 2021–2022 present value of the 2020–2021 net benefit is derived by multiplying it by one plus the discount rate.

Three distinct discount rates are considered, as outlined in Table 2. First, the Treasury Board of Canada Secretariat's *Canadian Cost-Benefit Analysis Guide* (TBS 2007) recommends an 8% discount rate. While this rate serves as the upper threshold, it's worth noting that the guide was published in 2007 when interest rates were notably higher than in 2021–2022. Second, a conservative metric for the cost of funds is established by utilizing the 10-year Government of Canada benchmark bond yield of 1.7%, as reported by the Bank of Canada. This serves as a lower limit for the discount rate. Lastly, the baseline analysis in this study uses a discount rate of 5%, which not only lies between the upper and lower limits but also aligns with discount rates used in previous cost-benefit analyses, thus ensuring comparability.

Table 2: Discount rates

Scenario	Discount rate (%)	Source
High	8	Treasury Board of Canada Secretariat
Medium (base case)	5	2019 CSBFP cost-benefit study
Low	1.7	10-year Government of Canada benchmark bond yields (average 2013–2014 to 2021–2022)

Sources: Treasury Board of Canada Secretariat (2007); Seens (2015); Huang and Rivard (2019); Statistics Canada; and author's calculations.

Incrementality rate

The incrementality rate is a metric representing the portion of CSBFP loans that lenders would not have approved if the program did not exist. It plays a crucial role in this analysis. Loans fall into two categories:

- **Fully incremental loans:** These loans are attributable entirely to CSBFP, as they would have been rejected without it.
- **Partially incremental loans:** These loans would have received approval even without the CSBFP but might have faced less favorable terms, such as higher interest rates or collateral requirements.

The significance of the incrementality rate lies in its direct impact on how the social benefits of the CSBFP are estimated. If it is assumed that no CSBFP loans are incremental (meaning they would have been approved anyway), then none of the economic benefits calculated in this analysis can be attributed to the program.

However, this assumption is unlikely to hold because lenders would have no incentive to use the CSBFP if they were going to approve the same loans independently. The CSBFP fees and capped interest rates reduce their profits, and the administrative burden of the program diminishes the lending institutions' incentive to use the program. Conversely, assuming that all CSBFP loans and their economic impacts are fully incremental might be an overly strong assumption.

To take a conservative approach, the methodology of Huang and Rivard (2019) is followed and three distinct scenarios for incrementality rates are examined, as specified in Table 3. In all scenarios, a fixed 25% of loans are considered non-incremental.

In the high scenario, a conservative estimate, grounded in econometric and survey evidence, suggesting that 75% of CSBFP loans are fully incremental, is used. In the low scenario, 25% of CSBFP loans are assumed to be fully incremental, while 50% are partially incremental. The baseline scenario assumes 50% are fully incremental and 25% of CSBFP loans are partially incremental.

Table 3: Incrementality rates

Scenario	Rate of full incrementality (%)	Rate of partial incrementality (%)
High	75	0
Medium (base case)	50	25
Low	25	50

Sources: KPMG (2009); Seens (2015) and Huang and Rivard (2019).

Findings

Present value net benefit of the CSBFP (base case)

Table 4 provides an overview of the social costs associated with the CSBFP. The total annual program costs, when adjusted for the discount rate, reached a peak of $174 million in 2014–2015, before subsequently experiencing a rapid decline to an average of $80 million between 2017–2018 and 2021–2022. Social costs predominantly stem from default-related expenses, where claims paid and lender default costs collectively contribute to 84% and 13% of the overall (uncompounded) costs, respectively. Note that the application of the discount rate magnifies social costs during the earlier years, particularly when expenditures were already at their highest levels throughout the evaluation period.

Table 4: Summary of CSBFP costs ($, thousands)

	2013–2014	2014–2015	2015–2016	2016–2017	2017–2018	2018–2019	2019–2020	2020–2021	2021–2022
Salaries and benefits of program staff	3,206	2,983	2,946	2,572	2,758	2,369	2,653	2,673	2,614
Direct operating expenditures	837	530	465	310	365	360	231	167	297
Capital expenditures	30	0	0	0	0	0	0	0	0
Claims paid on loan defaults	101,509	109,459	76,318	66,153	50,617	56,993	66,252	58,014	61,841
Loan default costs to lenders	10,310	10,930	9,870	10,121	8,401	7,812	9,244	15,837	14,779
Total costs	115,892	123,903	89,599	79,155	62,141	67,534	78,380	76,691	79,532
Compounded costs (at 5%), in 2021 dollars	171,225	174,344	120,071	101,024	75,533	78,179	86,414	80,525	79,532

Sources: Internal CSBFP database; Small Business Financing Directorate financial management system; and author's calculations.

The social benefits of the CSBFP, adjusted for incrementality, are summarized in Table 5. The total annual program benefits varied, reaching a low point of $514 million during 2020–2021 and peaking at $766 million in 2019–2020. Prior to incorporating the discount rate, there was an upward trajectory in program benefits, culminating in the highest point in 2019–2020. However, the program experienced a significant 32% reduction in benefits in 2020–2021 due to the pandemic. During that period, a number of emergency supports to businesses was provided by the Government of Canada in order to counter the negative effects of the pandemic. This includes, among other things, interest-free loans through the Canada Emergency Business Account (CEBA), as well as other business financing programs.

Subsequently, a rebound was observed in 2021–2022. The compounded program benefits showed a modest uptick of less than 1% between 2013–2014 and 2021–2022. Notably, before the pandemic, a noticeable growth pattern emerged, with an annualized increase of 4% from 2013–2014 to 2018–2019. The primary drivers of program benefits were direct and indirect GDP impacts. [28]

Table 5: Summary of CSBFP benefits ($, thousands)

	2013–2014	2014–2015	2015–2016	2016–2017	2017–2018	2018–2019	2019–2020	2020–2021	2021–2022
Interest revenues on loans	51,529	56,176	62,999	64,634	63,925	78,134	107,811	97,175	78,508
Salaries and wages paid by borrowers to new employees	72,259	61,866	63,875	63,202	77,326	87,491	83,379	45,061	71,382
Direct GDP impacts	144,452	133,124	147,436	167,721	213,913	245,215	252,368	163,312	235,388
Indirect GDP impacts	103,019	96,063	107,298	122,815	150,414	174,566	176,886	115,831	168,198
Administration and registration fees	50,840	49,883	51,463	55,023	61,378	69,223	74,135	68,606	74,950
Total benefits	422,100	397,111	433,071	473,396	566,956	654,629	694,578	489,986	628,427
Compounded benefits (at 5%), in 2021 dollars	623,633	558,776	580,357	604,187	689,139	757,815	765,773	514,485	628,427

Notes: Interest revenues, salaries and wages, and GDP impacts are adjusted for incrementality. GDP impacts are lower-bound estimates.
Sources: Internal CSBFP database; Statistics Canada, Canadian Input-Output Model; and author's calculations.

[28] Recall that, as noted above, these GDP impacts may rely on strong assumptions including 1) no social opportunity cost of program expenses, and 2) that the supply of productive factors is both available and infinitely elastic. The appendix presents net benefits and benefit-cost ratios excluding the GDP impacts.

Table 6 presents the total present value of net benefits over the evaluation period. Between 2013–2014 and 2021–2022, the total compounded benefits exceeded the total compounded costs by over $4.89 billion. Over this period, the ratio of benefits to costs (total benefit-cost ratio) stood at 6.9. Essentially, for every dollar allocated to program administration or addressing claims on defaults, the CSBFP yielded a substantial return of 6.9 dollars in benefits.

Table 6: Total net benefits and total benefit-cost ratio, 2013–2014 to 2021–2022

	Value
Total present value of program costs	$828,251,880
Total present value of program benefits	$5,722,590,750
Total present value of net program benefits	$4,894,338,870
Total benefit-cost ratio	6.9

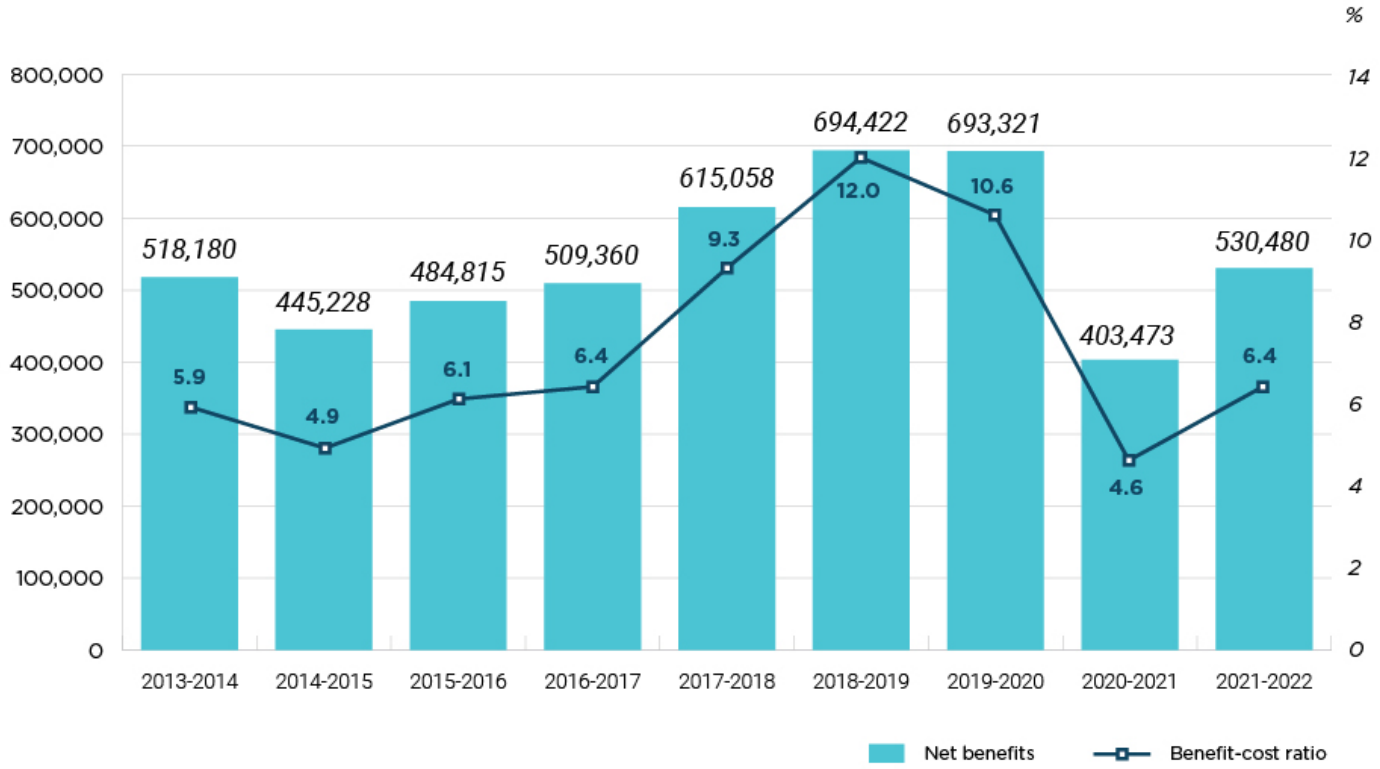
Sources: Internal CSBFP database; Statistics Canada, Canadian Input-Output Model; Small Business Financing Directorate financial management system; and author's calculations.

Figure 18 illustrates the compounded net benefits and benefit-cost ratio of the CSBFP from 2013–2014 to 2021–2022. Throughout those nine years, the program consistently delivered substantial net social benefits for Canadians of $403 million or more annually. The CSBFP had its largest impact in 2018–2019, yielding net benefits of approximately $694 million, resulting in a benefit-cost ratio of 12.0. This implies that for every dollar spent towards program costs, the CSBFP generated 12.0 dollars in economic benefits.

The net benefit and benefit-cost ratio showed an upward trend leading up to the onset of the pandemic. However, in 2020–2021, net benefits declined to $403 million, likely attributed to the pandemic's impact. Subsequently, a partial recovery was observed in 2021–2022, with net benefits rebounding to $530 million. This recovery translated into a benefit-cost ratio of 6.4.[29]

[29] Without including the pandemic shock year, the lowest net benefit was $445 million experienced in 2014–2015.

Figure 18: Compounded net benefits, 2013–2014 to 2021–2022 ($, thousands)



Sources: Internal CSBFP database; Statistics Canada, Canadian Input-Output Model; Small Business Financing Directorate financial management system; and author's calculations.

Findings

Sensitivity analysis

The estimated present value of net benefits vary when assumptions are altered. The outcomes above, based on the medium scenario, indicate that the CSBFP yielded substantial benefits exceeding costs during the period spanning from 2013–2014 to 2021–2022. This section delves into the sensitivity of this outcome to changes in assumptions. This allows for a more conservative lower limit for both estimates of net benefit and of benefit-cost ratio. Table 7 provides a summary of the assumptions that have been assessed.

Table 7: Assumptions for sensitivity analysis

	Low Scenario	High Scenario
Discount rate (%)	1.70	8.00
Incrementality	25% full incrementality	75% full incrementality
	50% partial incrementality	No partial incrementality
Employment displacement rate (%)	75	25
Employment creation*	Employment creation is 25% lower	Employment creation is 25% higher

* As reported by borrowers on their loan registration form.
Sources: Huang and Rivard (2019); Treasury Board of Canada Secretariat (2007); Seens (2015); and KPMG (2009).

Figures 19 and 20 present the estimates of compounded CSBFP net benefits and benefit-cost ratios for the low, medium (base case), and high scenarios. Across all three scenarios, program benefits consistently outweigh program costs throughout the evaluation period from 2013–2014 to 2021–2022.

Notably, the fiscal year 2020–2021 experienced a substantial dip in the compounded net benefit for all scenarios, attributed to the pandemic's influence, followed by a marginal recovery in 2021–2022.

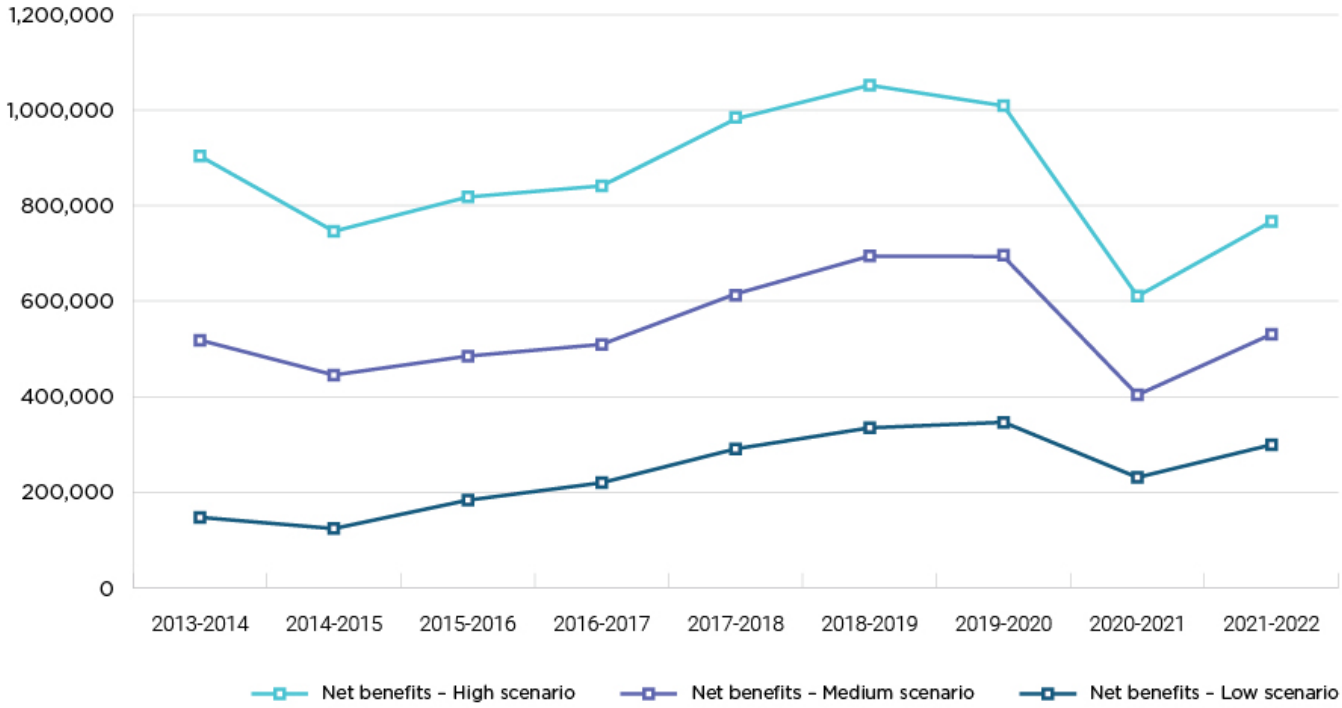
This reinforces the overarching finding that the CSBFP provides a significant net social benefit, even when estimated using conservative assumptions.

Under the low scenario, the cumulative CSBFP net benefits reached $2.2 billion over the nine-year period, with an average benefit-cost ratio of 3.6.

For instance, in 2021–2022 alone, the program yielded net social benefits of $299 million, reflecting a benefit-cost ratio of 4.8. In contrast, the high scenario gives a total net benefit surpassing $7.7 billion over the nine years, accompanied by an average benefit-cost ratio of 8.0.

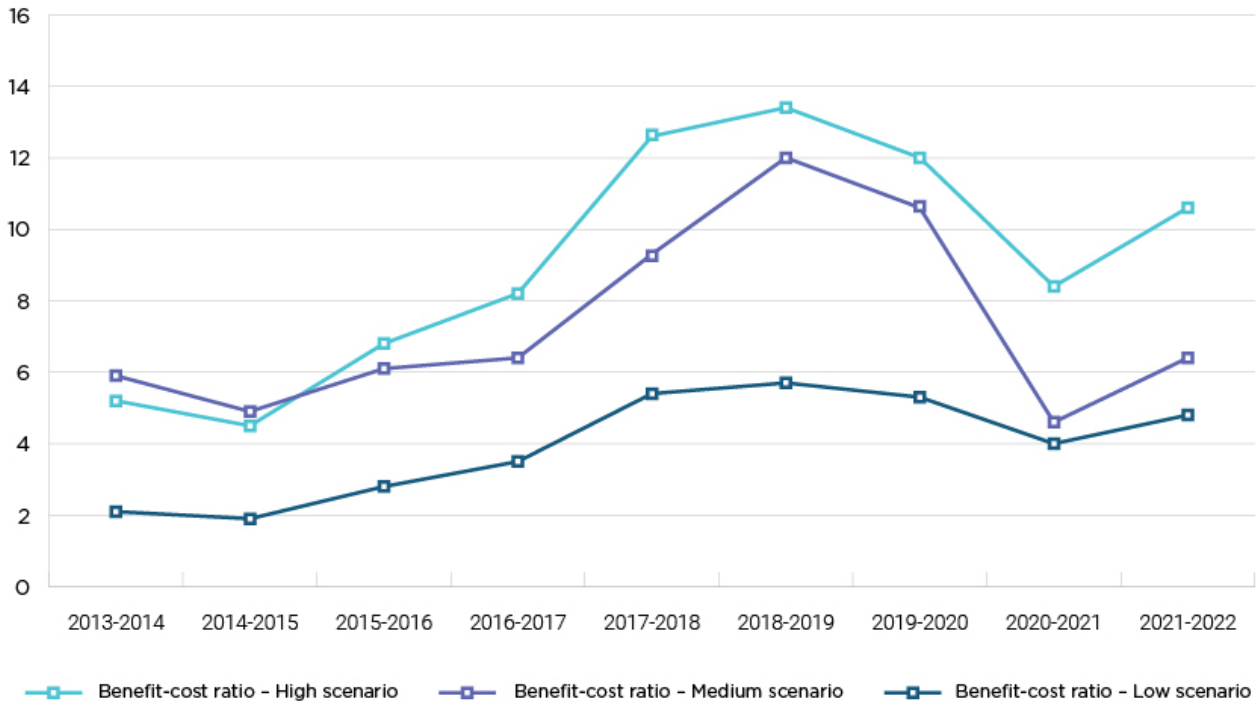
As an illustrative example, in 2021–2022, the high scenario shows a net benefit of $767 million, corresponding to a benefit-cost ratio of 10.6.

Figure 19: Compounded net benefits—low, medium and high scenarios ($, thousands)



Sources: Internal CSBFP database; Statistics Canada, Canadian Input-Output Model; Small Business Financing Directorate financial management system; Huang and Rivard (2019); Seens (2015); KPMG (2009); and author's calculations.

Figure 20: Benefit-Cost ratio—low, medium and high scenarios



Sources: Internal CSBFP database; Statistics Canada, Canadian Input-Output Model; Small Business Financing Directorate financial management system; Huang and Rivard (2019); Seens (2015); KPMG (2009); and author's calculations.

7. CONCLUSIONS

The results of this analysis show that the CSBFP generated a significant net social benefit, with the program contributing positively to the Canadian economy. Over the nine-year period, between fiscal years 2013–2014 and 2021–2022, the program generated social benefits that exceeded social costs by nearly $5 billion, while for each year the net benefit totalled $403 million or more.

The sensitivity analysis, intended to assess the outcomes across a range of assumptions, reinforces the overall finding that the CSBFP consistently delivers net social benefits each year. Overall, the benefit-cost ratio exhibited an upward trend until the onset of the pandemic, which led to a decline in 2020–2021, followed by a modest recovery in 2021–2022. Even under cautious assumptions, as evidenced by the lowest benefit-cost ratio calculated in 2014–2015, the program's benefits outweighed costs by a factor of 1.9, underscoring its resilience even during economic challenges. Conversely, more optimistic assumptions revealed an even more robust impact, with program benefits surpassing costs by a factor as significant as 13, as exemplified in the high scenario for 2018–2019. Furthermore, when net benefits are calculated without including GDP impact, the positive societal benefits remain evident.

In summary, the findings of this report, which are consistent with those of previous cost-benefit analyses, offer compelling evidence that a thorough assessment of the benefits and costs associated with the CSBFP reveals that every dollar spent on administering the program yields multiple dollars' worth of net social benefit.

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APPENDIX

As noted above, there are two assumptions underlying the IO model GDP impacts. First, there is no social opportunity cost to spending on the CSBFP. That is, in the absence of the CSBFP, program expenditures would not be reallocated towards other program spending, thereby generating a different set of net benefits. The second assumption is that the supply of production inputs (e.g., labour and raw materials) is perfectly elastic, and that any amount of inputs can and will be supplied in order to meet the increase in demand attributable to CSBFP lending.

To the extent that these assumptions may not hold, it is useful to see how the analysis changes when GDP impacts are excluded.

Table A1 presents the CSBFP benefits without including GDP, adjusted for incrementality. The total annual program benefits exhibited an ascending trajectory, reaching their peak at $293 million in 2019–2020, but then declined to a low of $221 million during the pandemic in 2020–2021. Salaries and wages were the primary contributors to program benefits up to the 2018–2019 fiscal year, while in the latter stages of the program, interest revenue on loans emerged as the predominant driver of program benefits.

Table A1: Summary of CSBFP benefits excluding GDP impact ($, thousands)

	2013–2014	2014–2015	2015–2016	2016–2017	2017–2018	2018–2019	2019–2020	2020–2021	2021–2022
Interest revenues on loans	51,529	56,176	62,999	64,634	63,925	78,134	107,811	97,175	78,508
Salaries and wages paid by borrowers to new employees	72,259	61,866	63,875	63,202	77,326	87,491	83,379	45,061	71,382
Administration and registration fees	50,840	49,883	51,463	55,023	61,378	69,223	74,135	68,606	74,950
Total benefits	174,628	167,925	178,337	182,860	202,629	234,848	265,325	210,843	224,841
Compounded benefits (at 5%), in 2021 dollars	258,005	236,287	238,989	233,381	246,296	271,866	292,521	221,385	224,841

Notes: Interest revenues, salaries and wages are adjusted for incrementality.
Sources: Internal CSBFP database; and author's calculations.

Additionally, Table A2 illustrates that the compounded present value of net benefits over the evaluation period remained consistently positive, even after excluding the GDP impact. Specifically, the total compounded benefits surpassed the total compounded costs by approximately $1.4 billion. This translated to a robust total benefit-cost ration of 2.7.

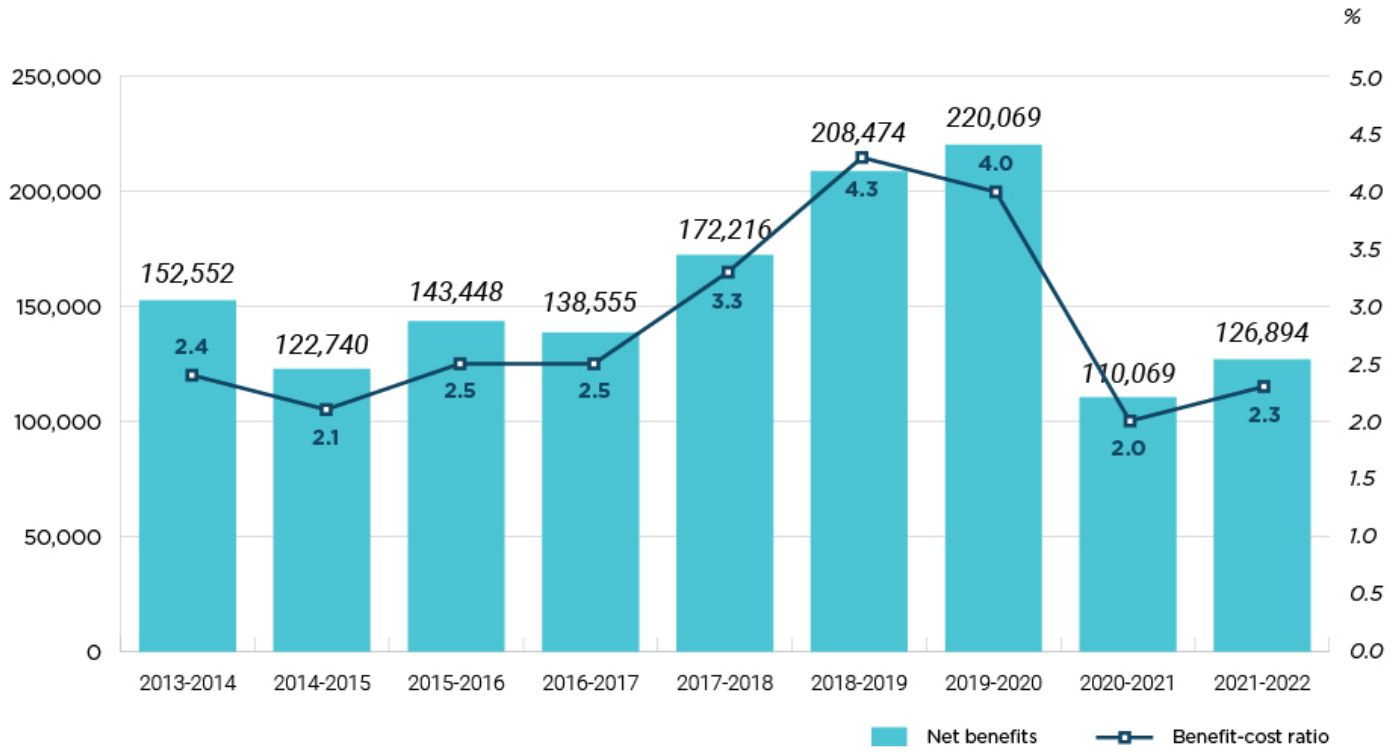
Table A2: Total net benefits and total benefit-cost ratio excluding GDP impact, 2013–2014 to 2021–2022

	Value
Total present value of program costs	$828,251,880
Total present value of program benefits	$2,223,571,596
Total present value of net program benefits	$1,395,319,716
Total benefit-cost ratio	2.7

Sources: Internal CSBFP database; Small Business Financing Directorate financial management system; and author's calculations.

Figure B1 shows the annual net social benefits and benefit-cost ratio of the CSBFP, excluding the GDP impact. The program consistently delivered substantial net social benefits exceeding $110 million annually. The fiscal year 2019–2020 marked the highest impact, with an approximate benefit of $220 million and a benefit ratio of 4.0. The net benefit and benefit-cost ratio showed an upward trend until the onset of the pandemic in 2020–2021, followed by a modest recovery in 2021–2022.

Figure B1: Compounded net benefits excluding GDP impact, 2013–2014 to 2021–2022 ($, thousands)



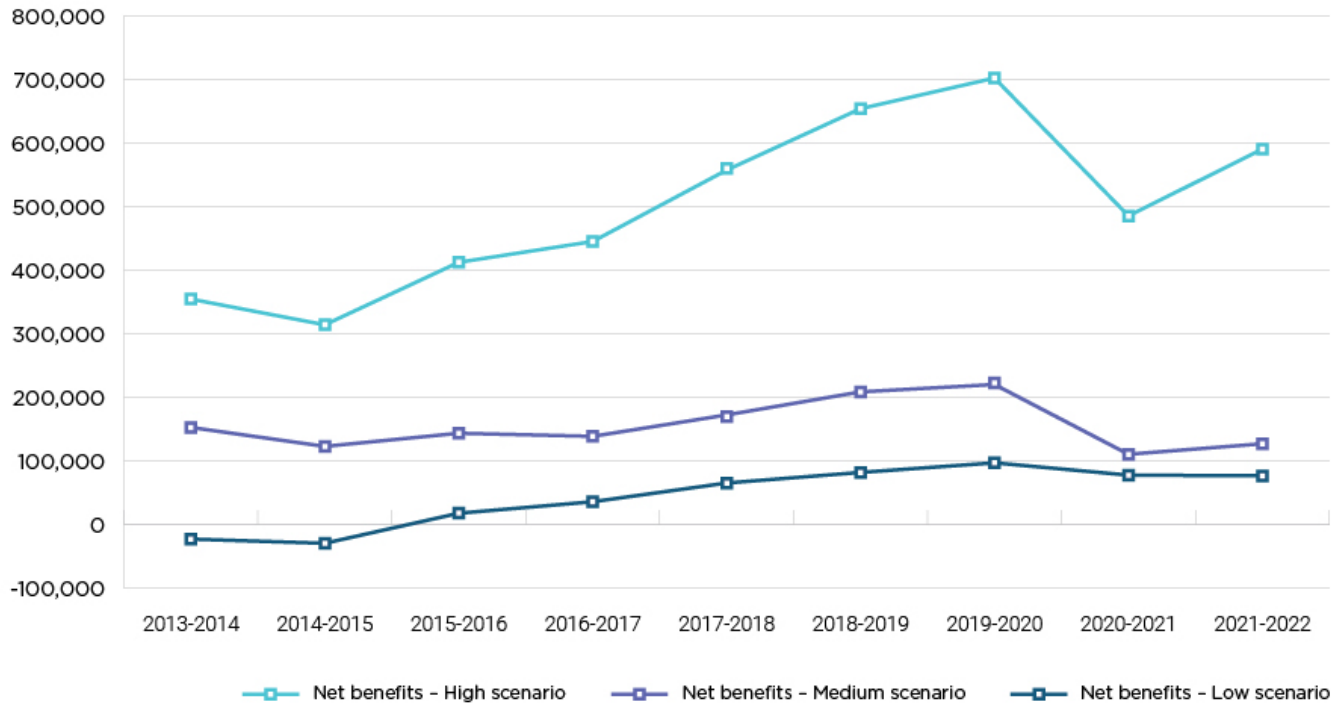
Sources: Internal CSBFP database; Small Business Financing Directorate financial management system; and author's calculations.

Figures B2 and B3 provide estimates of compounded CSBFP net benefits and benefit-cost ratios, excluding the GDP impact for three different scenarios: low, medium (base case), and high. Across all the medium and high scenarios, program benefits consistently outweigh program costs throughout the evaluation period.

However, in the low scenario, the net benefits for the first two year of our evaluation period (2013–2014 and 2014–2015) were both negative, each under $30 million. Additionally, the benefit-cost ratio for both years was 0.8 after factoring out the GDP impact. This implies that for every dollar of CSBFP loan, only about 80 cents of social benefits were generated. Nonetheless, all other years in the low scenario exhibit positive net benefits and benefit ratios above 1 over the nine-year evaluation period. Furthermore, the cumulative net benefit for the entire nine-year evaluation period in the low scenario remained positive.

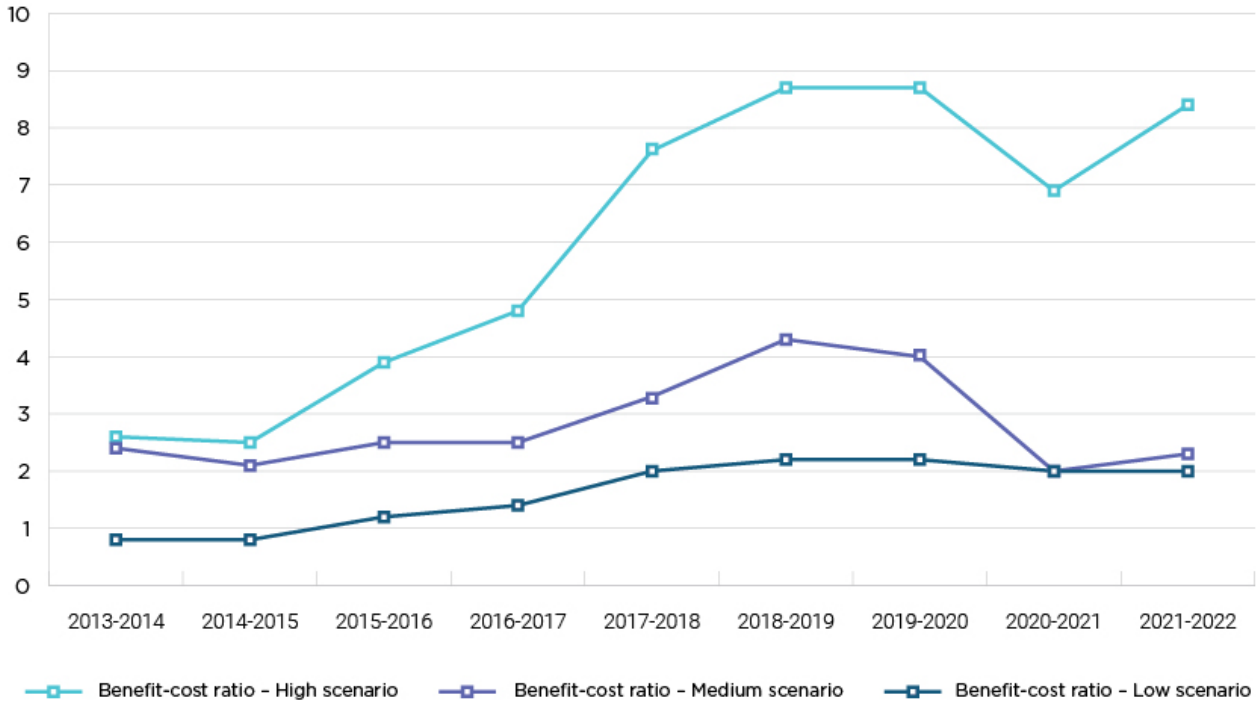
As illustrated in figure B3, in the medium and high scenarios, the program consistently achieved a benefit ratio above 1 over the nine-year evaluation period.

Figure B2: Compounded net benefits excluding GDP impact—low, medium and high scenarios ($, thousands)



Sources: Internal CSBFP database; Small Business Financing Directorate financial management system; Huang and Rivard (2019); Seens (2015); KPMG (2009); and author's calculations.

Figure B3: Benefit-cost ratio excluding GDP impact—low, medium and high scenarios



Sources: Internal CSBFP database; Small Business Financing Directorate financial management system; Huang and Rivard (2019); Seens (2015); KPMG (2009); and author's calculations.

In summary, the analysis indicates that the CSBFP consistently generated substantial net social benefits over the evaluation period, even when excluding the GDP impact. Notably, the program reached its peak in 2019–2020 and demonstrated resilience during the pandemic in 2020–2021. According to the base case model of this analysis, for every dollar invested in the program, it yielded $2.7 in benefits, underscoring its cost-effectiveness and positive impact on the economy.

Moreover, removing GDP impacts may be an overly conservative assumption. The social opportunity cost to CSBFP expenditures may indeed be low, given that the program leverages private sector lending and has relatively low overhead costs. Furthermore, although production inputs are clearly not available in perfectly elastic supply, overall CSBFP lending is on a small enough scale in the context of the broader Canadian economy that as an approximation perfect elasticity may not be unreasonable.[30]

[30] For example, in 2022, real GDP in Canada totalled over $2 trillion (Statistics Canada, Table 36-10-0104-01), while $1.5 billion of lending was extended through the CSBFP in 2022–2023 (CSBFP program database). Examined in isolation, it may not be unreasonable to think that the Canadian economy could increase production in response to CSBFP lending without any substantial upstream or spillover effects.