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Use of Government COVID-19 Liquidity Support Programs by Immigrant-owned Businesses and Those Owned by Canadian-born Individuals

by Hassan Faryaar, Huju Liu, Haozhen Zhang and Jianwei Zhong

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Abstract

Immigrant-owned businesses were more likely to be affected by the COVID-19 pandemic than other businesses, as they were more concentrated in industries requiring in-person contact and were smaller in scale. To support businesses affected by the pandemic, the Government of Canada launched various COVID-19 liquidity support programs, including the Canada Emergency Wage Subsidy (CEWS), the Canada Emergency Commercial Rent Assistance (CECRA), the Canada Emergency Rent Subsidy (CERS) and the Canada Emergency Business Account (CEBA). These programs were designed to help affected businesses by partially covering their main expenses, such as wages, rent and property expenses. This paper combines data from the Canadian Employer–Employee Dynamics Database with data from these four support programs to study the use of the programs by immigrant-owned businesses and to compare the results with those of businesses owned by Canadian-born individuals. The results indicate that businesses majority-owned by immigrants were more likely to receive the CEBA and the CECRA or the CERS and less likely to receive the CEWS than businesses owned by Canadian-born individuals after controlling for other factors. However, businesses majority-owned by immigrants received slightly higher dollar values than those owned by Canadian-born individuals, regardless of the program. Among immigrant-owned businesses, the characteristics of the owners, such as gender, education, landing year and language skills, played an important role in the use of the liquidity support programs. For example, businesses whose owners arrived in Canada more recently were less likely to receive the CEWS, and they received a lower dollar value. Businesses whose owners spoke neither English nor French were less likely to receive the CERS, the CECRA or the CEWS, and they received the lowest dollar value when all the programs were combined.

1 Introduction

Studies show that immigrant-owned businesses were hit by the pandemic harder than those owned by Canadian-born individuals. For example, from February 2020 to December 2020, the number of immigrant small business owners in Canada declined by 4 percentage points more than that of non-immigrant business owners (Beland et al., 2021). Furthermore, according to the Canadian Survey on Business Conditions, 43.0% of businesses majority-owned by immigrants reported a minimum loss of 30% in their revenues between 2019 and 2020, compared with 31.2% of all private sector businesses that experienced the same minimum loss during the same period (Tam et al., 2021). Moreover, regarding future expectations, the survey found that businesses majority-owned by immigrants were less optimistic. For example, 22.7% of them reported that they could operate for 12 months or more without any loss in revenue before considering laying off staff, compared with 31.5% of all private sector businesses (Tam et al., 2021). Similarly, studies in the United States found that during the pandemic, businesses owned by immigrants and racialized groups were closed more than the overall average of businesses in the economy (Fairlie, 2020).

In general, the impacts of the COVID-19 pandemic differed across businesses depending on their characteristics, such as operating industry, size and financial health. Those characteristics may be different in businesses owned by immigrants versus those owned by Canadian-born individuals. For example, immigrant-owned businesses were smaller than those owned by Canadian-born individuals.¹ Immigrants own relatively more small and medium-sized enterprises (SMEs) than non-immigrants. While immigrants account for around 22% of the population, they run 25% of SMEs in Canada (Tam et al., 2021). During economic downturns, such as the pandemic, small businesses faced resource availability and liquidity problems, and they were financially more vulnerable than large businesses (Bartik et al., 2020) and were more likely to close (Leung, 2021). Immigrant-owned businesses were also more concentrated in the wholesale trade, transportation and warehousing, and accommodation and food services sectors, which were hit particularly hard by the pandemic.

To support affected businesses during the pandemic, the Government of Canada launched different COVID-19 liquidity programs. The programs were designed to support affected firms by partially covering their main expenses, such as wages, rent and property expenses. This study focuses on the four main COVID-19 subsidy programs—the Canada Emergency Wage Subsidy (CEWS), the Canada Emergency Commercial Rent Assistance (CECRA), the Canada Emergency Rent Subsidy (CERS) and the Canada Emergency Business Account (CEBA).

Specifically, this study investigates the use of government support programs among immigrant-owned businesses and compares the results with those of businesses owned by Canadian-born individuals during the pandemic. For the analysis in this study, businesses are classified into three categories depending on immigrants' ownership share in a business: businesses owned by Canadian-born individuals (no immigrant owners)²; businesses majority-owned by immigrants (immigrants own 50% or more of the business) and businesses minority-owned by immigrants (immigrants own less than 50% of the business).³

To understand the use of the COVID-19 support programs by immigrant-owned businesses, this study links the data of the four COVID-19 support programs to 2019 business microdata and

1. For the size and industry distribution of immigrant-owned businesses by ownership, see section 5.1 for details.

2. In this study, immigrants are those who have arrived in Canada since 1980. Therefore, immigrants who arrived before 1980 are likely to be included with Canadian-born individuals.

3. There are two other categories of business ownership: businesses with an undetermined share (where immigrants own a positive share of the business, but the ownership type cannot be determined because of partially missing information) and businesses with no ownership information. The latter category usually consists of large businesses, such as publicly traded firms, whose ownership is subject to changes through daily stock trading, or private companies that failed to report shareholder information.

business ownership data. It then examines the use of COVID-19 support programs by immigrant-owned businesses after controlling for their pre-pandemic characteristics and compares the results with those of businesses owned by Canadian-born individuals.

The results indicate that immigrant-owned businesses were proportionally more supported through the CEBA and the CECRA or the CERS (hereafter the CECE) than the CEWS. After controlling for business characteristics, the study finds that businesses majority-owned by immigrants were more likely to be CEBA and CECE recipients and less likely to be CEWS recipients than businesses owned by Canadian-born individuals. However, in terms of the dollar value of support, businesses majority-owned by immigrants received a slightly higher dollar value than those owned by Canadian-born individuals, regardless of the program. The results for CEWS recipients were not statistically significant.

Additionally, the study finds that, among immigrant-owned businesses, businesses led by women were marginally less likely to receive the CEBA and more likely to receive the CECE and the CEWS than those led by men. Likewise, women-led businesses received a greater CECE dollar value and a lower CEWS dollar value than businesses led by men. Furthermore, the study finds that some characteristics of the owners of immigrant-owned businesses, such as education, landing year, admission category and language skills, played a role in the use of government liquidity programs. Businesses whose owners held a higher level of education were less likely to receive the CECE and received smaller amounts of it. Also, when all programs (the CEBA, the CECE and the CEWS) were combined, the dollar value of the support received declined with the owner's education at landing. Businesses whose owners arrived in Canada more recently were less likely to receive the CEWS and received a lower dollar value of it. Businesses whose owners came to Canada as refugees were the most likely to receive the CEBA but were the least likely to receive the CEWS. Businesses whose owners spoke neither English nor French were less likely to receive the CECE and the CEWS, and they received the lowest dollar value when all the programs were combined.

The rest of this study is organized as follows: Section 2 introduces the government support programs, Section 3 briefly explains the data, Section 4 describes the methodology, Section 5 discusses the results, and Section 6 presents the paper's conclusion.

2 An overview of the government liquidity support programs

To alleviate the impacts of the pandemic on businesses, the Government of Canada implemented the CEWS program on March 15, 2020, and it continued until October 23, 2021. The subsidy program covered 21 four-week periods. The subsidy was mainly designed to support employers by enabling them to rehire workers, prevent further job losses and facilitate their business operations during the pandemic. Depending on the period, any employer in Canada who experienced a drop in revenue during the pandemic was eligible for this subsidy to cover part of their wage expenses. Depending on the size of a business's revenue loss, the subsidy amount could be up to 75% of employee wages, to a maximum of \$847 per week per employee.⁴

In parallel to the CEWS, the government also introduced the CECRA, which mainly targeted small businesses. This program started in March 2020 and continued until September 2020 and provided forgivable loans to qualifying commercial property owners to cover 50% of rent payments if they reduced the rent by 75%. In other words, under this program, if property owners agreed, tenants paid only 25% of the rent while the government provided a forgivable loan equal to 50%

4. The CEWS program required a 30% revenue drop in the early periods, i.e., the first four periods. For more information on the CEWS, see Government of Canada (n.d.a) for more details.

of the rent to property owners. The CECRA targeted small businesses paying less than \$50,000 per month in gross rent that either had their revenues reduced by at least 70% or had been forced to close because of the pandemic.

The CERS program replaced the CECRA on September 27, 2020, and continued until October 23, 2021. Like the CECRA, the CERS was designed to provide rent and other relief to businesses, non-profits and charities that experienced revenue loss during the COVID-19 pandemic. However, in contrast to the CECRA, the CERS provided support directly to qualifying tenants and property owners. More importantly, depending on the period, businesses were generally eligible for the CERS as long as they experienced any revenue loss. The condition of having at least a 70% loss in revenue, which was applied for the CECRA, was removed for the CERS. Expenses eligible for the CERS included commercial rent, property taxes (including school and municipal taxes), property insurance and interest on commercial mortgages. However, the value of the CERS was calculated as a percentage of revenue loss. Eligible expenses for any given location were up to \$75,000 per period, with maximum eligible expenses of \$300,000 for all affiliated entities per period. In other words, the maximum amount for any given corporation was \$300,000.⁵

The CEBA program offered a one-time interest-free loan of up to \$60,000 to small businesses and non-profits during the pandemic. Repaying the balance of the loan on or before December 31, 2023, will result in loan forgiveness of up to 33% (up to \$20,000).

The CEBA application process follows one of two streams:

- the payroll stream: applicants with employment income paid in the 2019 calendar year between \$20,000 and \$1,500,000
- the non-deferrable expense stream: applicants with \$20,000 or less in total employment income with eligible non-deferrable expenses, such as rent, property taxes, utilities and insurance, between \$40,000 and \$1,500,000.⁶

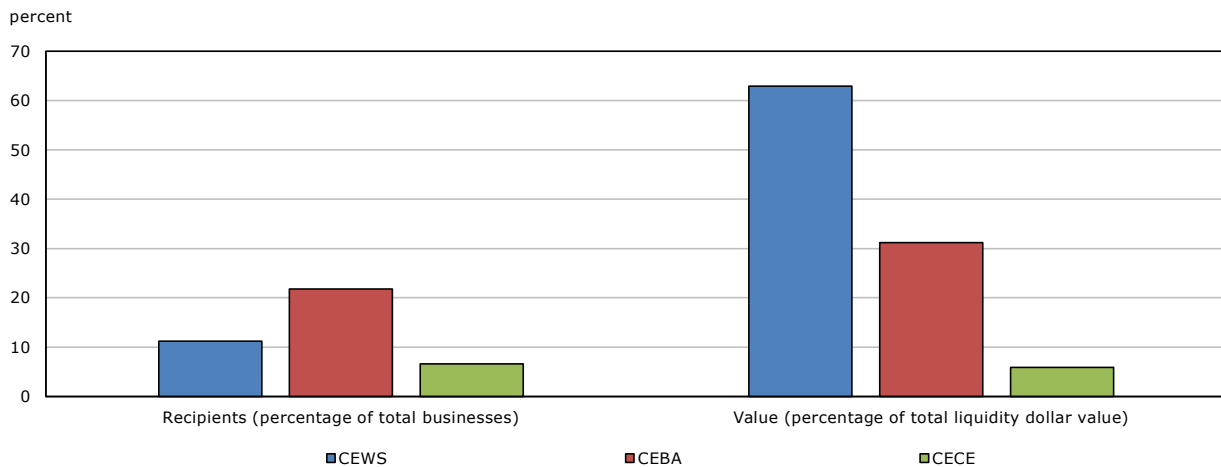
As previously mentioned, for simplicity, the paper combines the CECRA and the CERS (hereafter the CECE) because they are conceptually similar programs. Chart 1⁷ illustrates the distribution of the liquidity support programs across businesses. The three bars on the right show that the CEBA, the CECE and the CEWS accounted for 31%, 6% and 63%, respectively, of the total values of the distributed liquidity support from these programs. However, of all businesses with an active business number in 2019 (including those with undetermined owners or no ownership information), 22% were CEBA recipients, 7% CECE recipients and 11% CEWS recipients, as shown by the three bars on the left.

5. Despite the first periods, the CERS required at least a 10% loss in its final periods, i.e., periods 11 to 14. For more information on the CERS, see Government of Canada (n.d.b) for more details.

6. For more information on the CEBA, see Government of Canada (n.d.c) for more details.

⁷ The statistics presented in Chart 1 were based on the government support data linked to active businesses in 2019. The government support data was only up to October 2021, at the time of the analysis. These statistics are used to present an overall picture of the specific government support programs in the scope of our analysis and may be different from other published official statistics, due to the differences in the business population and in the time frame of government support data.

Chart 1
Percentage of COVID-19 liquidity support recipients and liquidity value, by program



Notes: The four programs are the Canada Emergency Wage Subsidy (CEWS), Canada Emergency Business Account (CEBA), Canada Emergency Commercial Rent Assistance (CECRA) and Canada Emergency Rent Subsidy (CERS). In September 2020, the CERS replaced the CECRA, and because they were conceptually similar programs, the authors combined them as the CECE.

Source: Authors' calculations using business microdata and COVID-19 support program datasets.

3 Data

This study combines four datasets to analyze the use of liquidity support programs across immigrant-owned businesses and those owned by Canadian-born individuals. First, data on pre-pandemic immigrant business ownership are taken from the 2019 Canadian Employer–Employee Dynamics Database and are linked to 2019 and 2020 T1 unincorporated and T2 incorporated business datasets to get business characteristics. The data are then linked to the data on the pandemic liquidity support programs to get information on the program recipients and support values. The liquidity support program data used in this paper mainly cover up to the third quarter of 2021, depending on the data availability for the programs. However, this study does not cover the other supporting programs that were introduced in late 2021 or early 2022. The final dataset is at the business level and provides information on businesses' pre-pandemic characteristics, such as size, industry, province or territory, financial information and immigrant ownership share; the characteristics of immigrant owners; and COVID-19 support programs used during the pandemic.

Most of the COVID-19 support programs required that a business be active when it initially applied for support. Therefore, a business that received program support in 2020 was implicitly assumed to be active in 2020. Therefore, businesses that did not receive program support were either inactive or active businesses that did not receive support in 2020. To differentiate inactive businesses from active non-recipient businesses, the study focuses only on those businesses that were active in 2019 and 2020. The bias introduced by this sample selection is controlled using the Heckman selection model, which will be discussed in more detail in Section 4.

Table 1 illustrates the overall number of observations after the datasets are combined. Overall, 4.2 million businesses were active in 2019 and 2020. The businesses with undetermined or missing ownership information accounted for 27% of businesses, and the share of these businesses receiving program support varied by program. Among those businesses with ownership information, businesses owned by Canadian-born individuals accounted for 76% of businesses and the share of businesses owned by Canadian-born individuals was highest among those receiving the CEWS and lowest among those receiving the CECE. The remaining businesses were dominated by businesses majority-owned by immigrants, about 23% overall, and the share of these businesses was highest among CECE recipients, at 35%. Businesses

minority-owned by immigrants accounted for a very small share of businesses with ownership information.

Table 1
Overall number of observations of active businesses in 2019 and 2020, by ownership and COVID-19 liquidity support program

Ownership	Total businesses	CEBA recipients	CECE recipients	CEWS recipients
		number		
Businesses majority-owned by immigrants	709,800	188,700	58,300	66,500
Businesses minority-owned by immigrants	21,500	7,600	2,700	5,300
Businesses owned by Canadian-born individuals	2,351,000	451,300	107,500	262,100
Undetermined or no ownership information	1,139,300	214,300	93,600	109,000
All	4,221,600	861,900	262,100	442,900

Notes: The four programs are the Canada Emergency Wage Subsidy (CEWS), Canada Emergency Business Account (CEBA), Canada Emergency Commercial Rent Assistance (CECRA) and Canada Emergency Rent Subsidy (CERS). In September 2020, the CERS replaced the CECRA, and because they were conceptually similar programs, the authors combined them as the CECE. The number of observations is rounded to 100. Adding other characteristics such as financial characteristics reduces the number of observations because of missing information.

Source: Authors' calculations using business microdata and COVID-19 support program datasets.

4 Methodology

The use of government support programs is generally related to the extent to which a business was affected by the pandemic, and this, in turn, is related to its characteristics, such as operating industry, business size, and province or territory. This paper conducts multivariate analyses to understand how a business's characteristics affect its use of the government support programs and how immigrant-owned businesses differ in their use of COVID-19 support programs from those owned by Canadian-born individuals, after controlling for their different characteristics.

To compare the use of the COVID-19 support programs by immigrant-owned businesses with that of businesses owned by Canadian-born individuals, following regression models are applied to each liquidity support program:

$$program_i = \alpha_1 owner_type_i + \beta_1 X' + \gamma_1 R_i + \varepsilon_i, \quad (1)$$

$$program_value_i = \alpha_2 owner_type_i + \beta_2 X' + \gamma_2 P_i + \mu_i, \quad (2)$$

where the independent binary variable $program_i$ represents the use of a single specific support program by business i . For each support program, the independent binary variable is 1 if business i receives the liquidity program for at least one period, and 0 otherwise. As mentioned above, a period is equal to four weeks. The use of each support program has been studied separately. The variable $owner_type_i$ is the variable of interest and indicates the five business ownership types, i.e., businesses majority-owned by immigrants, businesses minority-owned by immigrants, businesses owned by Canadian-born individuals, businesses with an undetermined share of immigrant owners and businesses with no ownership data. The vector X' is the vector of control variables, including business size, business age, operating industry (at the three-digit North American Industry Classification System [NAICS] level), province or territory, and the business's financial characteristics. Business size is determined by the number of employees and is classified into six categories (see Table 2). Financial characteristics consist of the average wage per employee, the current ratio, the fixed-cost ratio, profit margins and the labour productivity of businesses in 2019. The average wage per employee is calculated by dividing the payroll by the total number of employees. The current ratio is obtained by dividing the current assets by the current liability (current debt, accrued expenses, etc.) and is used to measure a business's

liquidity. A lower current ratio can be an indicator of a higher risk of distress or default, especially during a recession. The third variable is the ratio of fixed costs (i.e., rent, mortgage payments, utility expenses) over a business's total expenses. A higher fixed-cost ratio can be related to a greater need for support that targets fixed costs such as the CECE. The fourth financial variable, which measures the profitability of businesses, is the ratio of net profit over revenue. Finally, labour productivity is obtained as the ratio of added value over the total annual labour hours.

As described in the data section, the data sample in this paper includes only those businesses that were active in 2019 and 2020. This selection may bias the results if business survival differs between those owned by immigrants and other businesses. Therefore, a Heckman selection model is adopted to control for this potential selection bias. First, the probability of being active in 2020 is estimated for each business in 2019 by using a probit model and the business's 2019 characteristics, and an inverse Mills ratio is calculated for each business. Second, this ratio, denoted as R_i , is included in equation (1) to control the selection bias. To properly derive the inverse Mills ratio, an additional instrument variable needs to be included in the regression of the first step, which is supposed to relate to a business being active, but not necessarily to its use of a COVID-19 program. For this purpose, the survival rate for all businesses from 2019 to 2020 within a census metropolitan area and industry of operation at the two-digit NAICS level is used as an instrument.

While equation (1) determines whether the likelihood of being a liquidity support recipient is different across business characteristics, it does not provide any information on the value of the support received. For example, under the CECRA and the CEWS programs, a business can be defined as a recipient whether they reported a revenue loss of 10% or 100% or whether they received the subsidy for one period or multiple periods. Therefore, in equation (2), an ordinary least squares regression model is used to examine whether there is a relationship between the variables of interest and the value of the liquidity support received.

The analysis on the value of the liquidity support received is carried out only for the support recipients. In equation (2), $program_value_i$ represents the log value of the total support values for the CECE, the CEWS or when the programs are combined (the CEBA, the CECE and the CEWS) for business i , and μ_i is the error term of the model. There was no variation in the value of the CEBA because it was a one-time loan, and the amount was roughly the same across all recipient businesses. So, the support value of the CEBA is not discussed separately. The vector of control variables, X' , is the same as in equation (1), and it includes the following variables: business size, province or territory, operating industry and financial characteristics of the businesses. The next variable, P_i , is another inverse Mills ratio used to address the selection of program recipients. The analysis on the value of the liquidity support received is carried out only for businesses that received support. The selection arises when a business experiences severe revenue loss as a result of the COVID-19 shock, making it more eligible for the liquidity support and potentially increasing the amount of support it receives. To compute P_i , the probability of receiving program support is regressed over an exogenous instrument for each business i and some control variables, including type of ownership. Specifically, the instrument is constructed as the aggregate revenue growth of all businesses from 2019 to 2020 within each province or territory and operating industry (three-digit NAICS level), excluding the business itself, which is likely related to the probability of business i receiving support, but not to the value of the support received by business i .

Moreover, this paper studies the impact of an owner's characteristics on an immigrant-owned business's use of subsidy programs. For this purpose, the following regressions are considered:

$$program_i = \alpha_3 owner_type_i + \phi_3 Y' + \beta_3 X' + \gamma_3 I_i + e_i, \quad (3)$$

$$program_value_i = \alpha_4 owner_type_i + \phi_4 Y' + \beta_4 X' + \gamma_4 V_i + \xi_i, \quad (4)$$

where $owner_type_i$ represents the type of immigrant-owned business, i.e., majority- or minority-owned. The vector of Y' contains the owners' characteristics, including education, gender, age, landing year, country of birth, admission category and official language ability. The vector of X' represents the control variables of business characteristics, as in equations (1) and (2), and I_i and V_i are inverse Mills ratios associated with immigrant-owned businesses. Finally, e_i and ξ_i are the error terms of the equations.

5 Results

5.1 Descriptive results

Depending on their characteristics, businesses have been affected differently by the pandemic and hence received program liquidity support differently. Subsection 5.1 shows the descriptive results on how immigrant-owned businesses differed in their use of COVID-19 liquidity support programs from those owned by Canadian-born individuals based on their characteristics, including business size, industry, and province or territory.

Immigrant-owned businesses are more concentrated in smaller size categories. Table 2 shows the shares of immigrant-owned businesses and those owned by Canadian-born individuals by size. Excluding businesses with no employees, the share of businesses majority-owned by immigrants declines as the size increases. For instance, businesses majority-owned by immigrants represent 26% of total businesses with 1 to 4 employees, compared with 5% of businesses with 50 employees or more. Moreover, as shown in the last row, the ratio of businesses majority-owned by immigrants to those owned by Canadian-born individuals was equal to 44% for businesses with 1 to 4 employees, while it was 14% for those with 50 employees or more. Smaller businesses are more vulnerable during economic downturns because of liquidity constraints (Bartik et al., 2020) and were more likely to close during the pandemic (Leung, 2021).

Table 2
Distribution of ownership type within each business size

Ownership	No employees	1 to 4 employees	5 to 9 employees	10 to 19 employees	20 to 49 employees	50 employees or more
	percent					
Businesses majority-owned by immigrants	20	26	19	15	11	5
Businesses minority-owned by immigrants	0	1	1	2	2	2
Businesses owned by Canadian-born individuals	65	59	63	64	65	59
Undetermined or no ownership information	14	14	17	19	22	35
Total businesses	100	100	100	100	100	100
	number					
Total businesses	2,360,000	802,000	153,000	96,000	64,000	37,000
	percent					
Businesses majority-owned by immigrants divided by businesses owned by Canadian-born individuals	31	44	30	23	16	14

Note: The numbers in parentheses are the total number of businesses rounded to the nearest thousand in each size class.

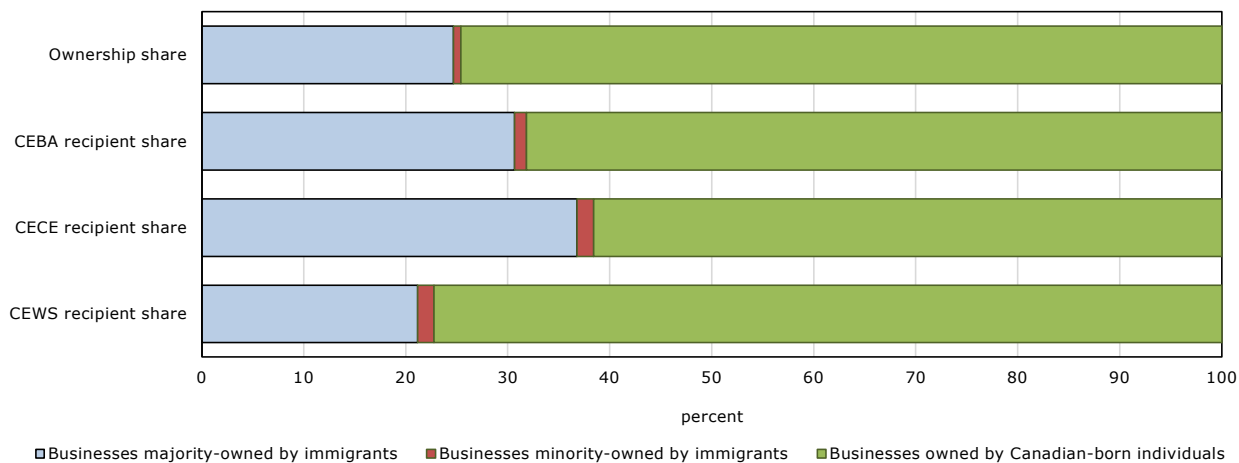
Source: Authors' calculations using business microdata and COVID-19 support program datasets.

In addition, immigrant-owned businesses operate proportionally more in some industries that were highly affected by the pandemic, as shown in column 3 of Table 3. For example, businesses majority-owned by immigrants represented 32% of businesses in the accommodation and food services sector and 43% of businesses in the wholesale trade and the transportation and warehousing sectors. However, they also operate proportionally less in some other affected industries. For instance, businesses majority-owned by immigrants represented 10% of businesses in the arts, entertainment and recreation sector, which is one of the most COVID-19-affected sectors. The uneven distribution of immigrant-owned businesses across industries highlights the importance of controlling for industry when studying the impacts of the pandemic

on immigrant-owned businesses. The distribution of immigrant-owned businesses also differed across the provinces and territories. For example, as shown in column 3 of Table 4, the highest rate of businesses majority-owned by immigrants was in Ontario, representing 29% of businesses among those with known ownership, while the lowest rate was in the Atlantic provinces, representing 6%. Because COVID-19 restrictions varied across the provinces and territories, immigrant-owned businesses were likely affected in different ways.

Chart 2 shows the share of business ownership and the use of COVID-19 support programs by business ownership type. Excluding businesses with undetermined or no ownership information, businesses majority-owned by immigrants accounted for 25% of total businesses. The results show that these businesses were proportionally more supported through the CEBA and the CECE than they were through the CEWS. Specifically, the shares of these businesses that received the CEBA (31%) and the CECE (37%) were larger than their business ownership share (25%), while the share was lower for the CEWS (21%), as shown in Chart 2. Likewise, businesses majority-owned by immigrants received 31% of the CEBA support value, 35% of the CECE value and 11% of the CEWS value (Chart 3).

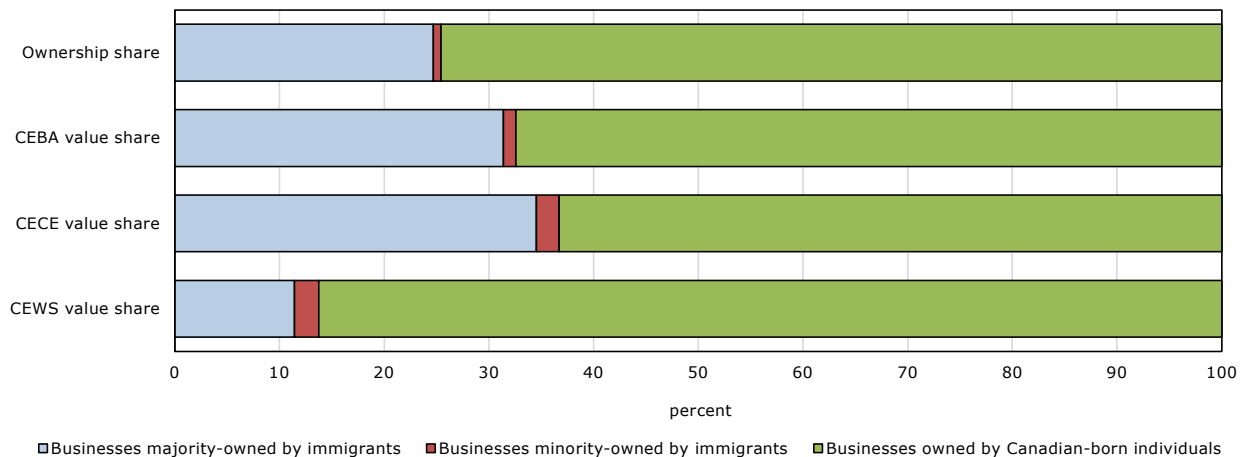
Chart 2
Distribution of ownership share and COVID-19 liquidity support recipients, by ownership type



Notes: The four programs are the Canada Emergency Wage Subsidy (CEWS), Canada Emergency Business Account (CEBA), Canada Emergency Commercial Rent Assistance (CECRA) and Canada Emergency Rent Subsidy (CERS). In September 2020, the CERS replaced the CECRA, and because they were conceptually similar programs, the authors combined them as the CECE.

Source: Authors' calculations using business microdata and COVID-19 support program datasets.

Chart 3
Distribution of ownership share and dollar value of COVID-19 liquidity programs, by ownership type



Notes: The four programs are the Canada Emergency Wage Subsidy (CEWS), Canada Emergency Business Account (CEBA), Canada Emergency Commercial Rent Assistance (CECRA) and Canada Emergency Rent Subsidy (CERS). In September 2020, the CERS replaced the CECRA, and because they were conceptually similar programs, the authors combined them as the CECE.

Source: Authors' calculations using business microdata and COVID-19 support program datasets.

In addition, the use of liquidity support varied across different industries. This paper compares the recipient share and the value share of each program by ownership type and sector. The recipient share is the number of recipients of each ownership type divided by the total number of recipients in each sector. Similarly, the value share is the dollar value received for each ownership type divided by the total support value of a sector. Among the sectors most affected (Table 3), the shares of businesses majority-owned by immigrants that received the CEBA were highest in wholesale trade and transportation and warehousing (41%), in accommodation and food services (37%), and in health care and social assistance and educational services (29%). In contrast, the highest shares of businesses owned by Canadian-born individuals were in agriculture, forestry, fishing and hunting; mining, quarrying, and oil and gas extraction; utilities; and construction (77%); in manufacturing (66%); and in arts, entertainment and recreation (61%). For CECE recipients, the shares of businesses majority-owned by immigrants were highest in accommodation and food services (38%), in retail trade (33%), and in health care and social assistance and educational services (30%). In comparison, the shares of businesses owned by Canadian-born individuals were highest in agriculture, forestry, fishing and hunting; mining, quarrying, and oil and gas extraction; utilities; and construction (70%); in arts, entertainment and recreation (61%); and in manufacturing (57%). Finally, of those that received the CEWS, the shares of businesses majority-owned by immigrants were highest in accommodation and food services (32%), retail trade (33%), health care and social assistance (25%), and educational services (23%), while the highest shares of businesses owned by Canadian-born individuals were in agriculture, forestry, fishing and hunting; mining, quarrying, and oil and gas extraction; utilities; and construction (82%), in manufacturing (69%), and in wholesale trade, transportation and warehousing, and retail trade (66%).

The recipient share of businesses majority-owned by immigrants can be compared with their ownership share using column 3 of Table 3. For example, the ownership share of businesses majority-owned by immigrants in the accommodation and food services sector, which was hit hard by the pandemic, was 32%, second to their share in wholesale trade and transportation and warehousing (43%). However, the shares of businesses majority-owned by immigrants that received the CEBA, the CECE and the CEWS were higher in accommodation and food services (37%, 38% and 32%, respectively) compared with those in wholesale trade and transportation and warehousing (41%, 29% and 17%, respectively) because the pandemic hit the former sector harder than the latter.

The province or territory in which businesses operate can also be linked to their varying use of liquidity support because of the differing pandemic restrictions and lockdown measures, and because the distribution of immigrant-owned businesses varied across the provinces and territories. Table 4 shows that the highest shares of businesses majority-owned by immigrants receiving COVID-19 support were in British Columbia, Ontario and Alberta. However, their ranking varied depending on the support program. Specifically, the shares of businesses majority-owned by immigrants receiving the CEBA were highest in Ontario (36%), British Columbia (33%) and Alberta (26%). In contrast, for businesses owned by Canadian-born individuals, the shares were highest in Saskatchewan and the territories (77%), the Atlantic provinces (76%), and Quebec (75%). For the CECE, the shares of businesses majority-owned by immigrants were highest in British Columbia (37%), Ontario (35%) and Alberta (28%), while businesses owned by Canadian-born individuals had the highest shares of CECE recipients in the Atlantic provinces and Saskatchewan and the territories (66%), and in Quebec and Manitoba (63%). Of businesses receiving the CEWS, the highest shares of those majority-owned by immigrants were in British Columbia (27%), Ontario (23%) and Alberta (20%). In contrast, the highest shares of those owned by Canadian-born individuals were in Quebec (78%), the Atlantic provinces (76%), and Saskatchewan and the territories (72%).

Comparing the recipient share of businesses majority-owned by immigrants with their ownership share indicates that these businesses used the CEBA and the CECE disproportionately more and the CEWS less in many provinces. For example, while businesses majority-owned by immigrants accounted for 25% of total businesses in British Columbia, they represented 33% of CEBA recipients, 37% of CECE recipients and 27% of CEWS recipients. However, they received 34% of the total CEBA support value, 30% of the total CECE support value and 13% of the total CEWS support value.

Table 3
Distribution of COVID-19 liquidity support programs within industries, by ownership type

Industry and ownership	Business share		CEWS		CEBA		CECE	
	Among all businesses	Among employer businesses	Recipient	Value	Recipient	Value	Recipient	Value
			percent					
Agriculture, forestry, fishing and hunting; mining, quarrying, and oil and gas extraction; utilities; and construction								
Majority immigrant	13	13	8	4	14	14	15	12
Minority immigrant	0	1	1	1	1	1	1	1
Canadian-born individuals	79	76	82	70	77	76	70	64
Manufacturing								
Majority immigrant	16	15	12	3	19	20	23	16
Minority immigrant	1	1	2	1	1	1	2	2
Canadian-born individuals	68	85	69	45	66	65	57	51
Wholesale trade and transportation and warehousing								
Majority immigrant	43	36	17	5	41	42	29	21
Minority immigrant	0	1	1	1	1	1	1	1
Canadian-born individuals	45	46	66	49	44	43	48	46
Retail trade								
Majority immigrant	25	24	19	7	29	30	33	28
Minority immigrant	1	1	1	1	1	1	1	1
Canadian-born individuals	62	60	66	62	56	55	48	44
Educational services								
Majority immigrant	24	25	23	22	29	29	30	26
Minority immigrant	1	1	1	1	1	1	1	1
Canadian-born individuals	60	49	50	43	50	49	46	45
Health care and social assistance								
Majority immigrant	23	25	25	18	29	29	30	32
Minority immigrant	1	2	2	3	2	2	2	2
Canadian-born individuals	66	62	62	53	60	59	55	47
Accommodation and food services								
Majority immigrant	32	34	32	16	37	37	38	31
Minority immigrant	1	1	2	2	1	1	2	2
Canadian-born individuals	47	44	46	50	42	42	39	42
Arts, entertainment and recreation								
Majority immigrant	10	9	7	3	10	10	13	12
Minority immigrant	0	1	1	1	1	1	1	2
Canadian-born individuals	72	58	56	52	61	60	61	59

Notes: The four programs are the Canada Emergency Wage Subsidy (CEWS), Canada Emergency Business Account (CEBA), Canada Emergency Commercial Rent Assistance (CECRA) and Canada Emergency Rent Subsidy (CERS). In September 2020, the CERS replaced the CECRA, and because they were conceptually similar programs, the authors combined them as the CECE. The numbers in parentheses are the percentages of businesses with payroll employees. The total share of ownership types within each industry may not be equal to 100% because businesses with an undetermined share or where ownership data were unavailable were excluded.

Source: Authors' calculations using business microdata and COVID-19 support program datasets.

Table 4

Distribution of COVID-19 support programs within provinces and territories, by ownership type

Province or territory and business ownership	Business share		CEWS		CEBA		CECE	
	Among all businesses	Among employer businesses	Recipient	Value	Recipient	Value	Recipient	Value
	percent							
Atlantic provinces								
Majority immigrant	6	7	7	8	12	10	6	2
Minority immigrant	0	0	1	1	1	1	1	1
Canadian-born individuals	79	74	76	75	66	60	76	68
Quebec								
Majority immigrant	12	12	13	13	19	17	9	3
Minority immigrant	0	1	1	1	1	2	1	1
Canadian-born individuals	76	73	75	75	63	59	78	60
Ontario								
Majority immigrant	29	30	36	36	35	30	23	8
Minority immigrant	1	1	1	1	1	1	1	1
Canadian-born individuals	56	51	47	46	41	39	57	46
Manitoba								
Majority immigrant	14	16	19	19	18	15	13	5
Minority immigrant	1	1	1	1	1	2	1	1
Canadian-born individuals	75	69	70	69	63	63	70	61
Alberta								
Majority immigrant	19	22	26	26	28	22	20	6
Minority immigrant	1	1	1	1	2	2	2	2
Canadian-born individuals	70	65	62	61	52	52	65	52
British Columbia								
Majority immigrant	25	26	33	34	37	30	27	13
Minority immigrant	1	1	2	2	2	2	2	2
Canadian-born individuals	61	58	53	52	44	41	57	49
Saskatchewan and the territories								
Majority immigrant	8	12	13	13	16	14	12	4
Minority immigrant	0	1	1	1	1	1	1	1
Canadian-born individuals	84	75	77	77	66	66	72	63

Notes: The four programs are the Canada Emergency Wage Subsidy (CEWS), Canada Emergency Business Account (CEBA), Canada Emergency Commercial Rent Assistance (CECRA) and Canada Emergency Rent Subsidy (CERS). In September 2020, the CERS replaced the CECRA, and because they were conceptually similar programs, the authors combined them as the CECE. The numbers in parentheses are the percentages of businesses with payroll employees. The total share of ownership types within each province or territory may not be equal to 100% because businesses with an undetermined share or where ownership data were unavailable were excluded. Saskatchewan and the territories were grouped together because of confidentiality concerns.

Source: Authors' calculations using business microdata and COVID-19 support program datasets.

5.2 Analytical results

5.2.1 The use of liquidity support: Immigrant-owned businesses versus those owned by Canadian-born individuals

The previous section shows the distribution of liquidity support programs across different business sizes, industries, and provinces and territories. Those analyses explain how the use of liquidity support programs by businesses varied based on business characteristics and type of ownership. However, those analyses cannot explain whether the use of liquidity support programs by immigrant-owned businesses was statistically different from the use by those owned by Canadian-born individuals, after controlling for their characteristics. For that purpose, a probit model of equation (1) is estimated to examine whether an immigrant-owned business's likelihood of being a liquidity recipient is significantly different from that of one owned by Canadian-born individuals. Then, equation (2) is estimated to examine whether there is any relationship between the dollar value from each liquidity program and the ownership type of a business.

Table 5 shows the results on the probability of receiving supports. Overall, the results indicate that businesses majority-owned by immigrants were more likely to receive the CEBA and the CECE and less likely to receive the CEWS than businesses owned by Canadian-born individuals. However, regardless of the liquidity support program, businesses minority-owned by immigrants, although representing less than 1% of total businesses, were more likely to receive supports than those owned by Canadian-born individuals.

Table 6 shows the results on the value of the support received by the recipients. Businesses majority-owned by immigrants received higher dollar-value support than those owned by Canadian-born individuals, regardless of the liquidity support program, on average at the business level. However, results for the CEWS are not statistically significant. Moreover, businesses minority-owned by immigrants received a higher dollar value of support from the CECE and when the programs were combined (total dollar value of the CEBA, the CECE and the CEWS) than those owned by Canadian-born individuals, but they received a lower dollar value from the CEWS. Again, the difference is not statistically significant for the CEWS. The results for each support program are discussed below.

a) The Canada Emergency Business Account

The probability of being a recipient:

Columns 2 and 3 of Table 5 show the results of the use of the CEBA loan program by immigrant-owned businesses and those owned by Canadian-born individuals. Column 2 shows the average marginal effects of the variables. For example, the marginal effects of the ownership variable demonstrate that businesses majority-owned by immigrants were 4.4 percentage points more likely to be CEBA recipients, and businesses minority-owned by immigrants were 2.8 percentage points more likely, than businesses owned by Canadian-born individuals.

The first control variable is business size. The results show that the likelihood of receiving the CEBA increased with size, up to businesses with 10 to 19 employees, then declined. This is because the CEBA was designed for smaller businesses; businesses whose payroll exceeded \$1.5 million were ineligible for the CEBA.⁸ Regarding business age, younger businesses were more likely to receive the CEBA. This is because younger businesses tend to be more financially vulnerable and suffer greater distress.

Because of the small number of observations, New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador are categorized as the Atlantic provinces; also,

8. CEBA program eligibility was controlled for in the regression model to ensure that any difference in program uptake by ownership type was not the result of eligibility differences.

Saskatchewan, the Northwest Territories, Yukon and Nunavut are grouped as Saskatchewan and the territories. Ontario is the base category. The results indicate that businesses in Quebec were the most likely to receive the CEBA, followed by businesses in Ontario, Alberta and the Atlantic provinces. A business's average wage had a similar effect as its size. The likelihood of being a CEBA recipient increased with the average wage paid to employees, but only up to a certain amount (\$40,000 to \$60,000), after which the effect declined. This reflects the upper limit of the payroll requirement of the CEBA.

The probability of being a CEBA recipient increased then declined with a business's fixed costs. Businesses with a low or modest fixed-cost ratio were more likely to receive the CEBA to cover their costs. However, as the fixed-cost ratio increased, the CEBA may have been insufficient to cover their losses, thus reducing the probability of receiving it. The probability of being a CEBA recipient decreased with the current ratio. This is because businesses with a higher current ratio can be financially more stable during economic downturns because of their higher liquidity and cash flow. Although there is no perfect linear relationship, the possibility of being a CEBA recipient declined with profit margins. Higher profit margins can be an indicator that a business is functioning well and therefore less likely to depend on external support. Finally, the probability of being a CEBA recipient had an inverted V-shaped relationship with labour productivity. More productive businesses tend to be more financially healthy and therefore less likely to depend on support.

b) The Canada Emergency Commercial Rent Assistance and the Canada Emergency Rent Subsidy

The probability of being a recipient:

The CECRA and the CERS (the CECE) were designed to cover the fixed expenses of businesses, such as rent, utilities and mortgages. For the CERS, businesses could receive up to \$75,000 per period per location, up to \$300,000. Columns 4 and 5 in Table 5 illustrate the results of the analyses of CECE recipients. The results show that businesses majority-owned by immigrants were 2.4 percentage points more likely, and businesses minority-owned by immigrants were 1.5 percentage points more likely, to receive the CECE than businesses owned by Canadian-born individuals. Moreover, the likelihood of being a recipient increased with business size and declined with business age. Businesses in Ontario were the most likely to receive the CECE, followed by businesses in Quebec and Alberta. The probability of receiving the CECE did not change considerably with the annual average wage up to \$40,000 to \$60,000, but declined notably for higher average wage categories. Regarding the financial characteristics of CECE recipients, the results are similar to those found among CEBA recipients. The probability of being a CECE recipient increased with the fixed-cost ratio, except for those with the greatest fixed-cost ratio, where it slightly decreased. The likelihood of being a CECE recipient declined with the current ratio and profit margins, and it had an inverted V-shaped relationship with labour productivity, similar to CEBA recipients.

The value of support:

The results show that during the study period, businesses majority- and minority-owned by immigrants received a higher total value of the CECE than businesses owned by Canadian-born individuals (columns 2 and 3 in Table 6). On average, businesses majority-owned by immigrants and those minority-owned by immigrants received 13.3% and 23.0%⁹, respectively, more CECE dollar-value support than businesses owned by Canadian-born individuals. The value of the support received increased with business size and declined with business age. Also, businesses in Ontario received the highest support value, followed by those in Alberta. The value of the

9 These numbers were calculated by taking exponential of the corresponding coefficients in Table 6 since the logarithm of value was used in regression.

support increased with the annual average wage per employee, except for businesses with an annual average wage of \$120,000 or higher.

The results also show that the value of CECE support increased with the fixed-cost ratio, except for businesses with a very high fixed-cost ratio, i.e., at least 80% of their expenses are fixed costs. However, there was a negative relationship between the value of support and a business's profit margins. The study could not find a linear relationship between the value of CECE support and the current ratio or labour productivity.

c) The Canada Emergency Wage Subsidy

The probability of being a recipient:

The CEWS program supported affected businesses by partially covering their labour expenses. The results (column 6 of Table 5) show that, unlike the CEBA and CECE programs, businesses majority-owned by immigrants were less likely to be CEWS recipients than those owned by Canadian-born individuals.¹⁰ In contrast, businesses minority-owned by immigrants were more likely to be recipients than their Canadian-born counterparts. On average, while businesses majority-owned by immigrants were 2.3 percentage points less likely to be CEWS recipients, those minority-owned by immigrants were 2.1 percentage points more likely to be recipients than businesses owned by Canadian-born individuals. The likelihood of being a CEWS recipient increased with business size, except for large businesses with 50 employees or more, for which it declined slightly. The likelihood also declined with business age. Businesses in Quebec were more likely to be CEWS recipients, followed by those in the Atlantic provinces and Alberta. The likelihood increased with the annual average wage per employee, up to \$40,000 to \$60,000, then declined. The maximum CEWS support per employee was \$847 per week, equivalent to \$44,000 per year; therefore, businesses that pay wages close to the CEWS maximum had the highest incentive to apply for the CEWS to cover the entirety of their wage expenses.

The likelihood of being a recipient declined with a business's fixed-cost ratio, except for businesses with a very high fixed-cost ratio, i.e., at least 80% of their expenses are fixed costs. The likelihood of being a CEWS recipient declined with the current ratio and profit margins. The higher the current ratio and the profit margins of a recipient business, the better its liquidity and financial stability; thus, businesses with higher liquidity were in a better financial position and less likely to be affected by the pandemic. Like the likelihood of being a CEBA and a CECE recipient, the likelihood of being a CEWS recipient had an inverted V-shaped relationship with labour productivity.

The value of support:

Columns 4 and 5 in Table 6 show the results of the dollar-value support received by immigrant-owned businesses and those owned by Canadian-born individuals. As shown in Table 5, businesses majority-owned by immigrants were less likely to be CEWS recipients. However, the value of the CEWS support they received was not significantly different from that received by businesses owned by Canadian-born individuals (Table 6).

The amount of the CEWS a business received increased significantly with its size. This is because, all else the same, the larger the business, the larger its payroll and the more dollar value it would receive following a revenue drop of a similar percentage. Unlike with the CECE, the dollar value of the CEWS slightly increased with business age, about 0.4% more for each additional year. Businesses in Alberta received the highest amount of the CEWS, followed by those in

10. The likelihood of being a CEWS recipient by ownership type is slightly sensitive to the size of the business. Although the paper controls for business size, businesses majority-owned by immigrants tend to be closer to the lower bound of the size distribution, even within the same size class. As a robustness check, the paper increased the size class from 6 to 12 categories and used the log of revenue as another measure of size. In both cases, the marginal effects of businesses majority-owned by immigrants increased slightly. However, these businesses were still significantly less likely to be CEWS recipients than those owned by Canadian-born individuals.

Ontario; therefore, businesses in these provinces either had larger revenue declines or received support for a longer period, or both. The CEWS value increased with the annual average wage paid by employers up to \$100,000, then declined.

Unlike with the CECE, the value of the CEWS declined with the fixed-cost ratio, except for businesses with the highest fixed costs. Furthermore, like the CECE, the dollar value of the CEWS declined with their current ratio. Regarding profitability, the value of the CEWS generally decreased with the profit margins. Leung and Liu (2022) also found that less profitable businesses demonstrated a greater benefit from the CEWS program. Finally, the results show that businesses with lower productivity generally received a higher value of CEWS support.

d) All subsidies

The paper also compares the total dollar value of all programs (the CEBA, the CECE and the CEWS) combined received by businesses owned by immigrants and those owned by Canadian-born individuals, as shown in the last two columns of Table 6. The results show that businesses majority- and minority-owned by immigrants received a higher dollar value than those owned by Canadian-born individuals. On average, businesses majority-owned by immigrants received a 5.2% higher dollar value, and minority-owned ones received a 6.0% higher dollar value, of liquidity support than those owned by Canadian-born individuals. In other words, for every \$100 received by a business owned by Canadian-born individuals, businesses majority-owned by immigrants received \$105.2, and those minority-owned by immigrants received \$106.

Table 5
Use of COVID-19 liquidity support programs, by ownership type

Probit	CEBA		CECE		CEWS	
	Marginal effects	P-value	Marginal effects	P-value	Marginal effects	P-value
Ownership (base category: businesses owned by Canadian-born individuals)						
Businesses majority-owned by immigrants	0.043	0.000	0.024	0.000	-0.023	0.000
Businesses minority-owned by immigrants	0.028	0.000	0.015	0.000	0.021	0.000
Undetermined or no ownership information	-0.014	0.000	0.008	0.000	-0.034	0.000
Business size (base category: businesses with 1 to 4 employees)						
5 to 9 employees	0.105	0.000	0.067	0.000	0.204	0.000
10 to 19 employees	0.101	0.000	0.105	0.000	0.293	0.000
20 to 49 employees	-0.066	0.000	0.121	0.000	0.329	0.000
50 employees or more	-0.299	0.000	0.126	0.000	0.322	0.000
Business age	-0.003	0.000	-0.001	0.000	-0.001	0.000
Province or territory (base category: Ontario)						
Atlantic provinces	-0.001	0.588	-0.031	0.000	0.014	0.000
Quebec	0.024	0.000	-0.002	0.000	0.029	0.000
Manitoba	-0.034	0.000	-0.020	0.000	-0.008	0.000
Alberta	-0.001	0.463	-0.005	0.000	0.006	0.000
British Columbia	-0.027	0.000	-0.023	0.000	-0.005	0.000
Saskatchewan and the territories	-0.029	0.000	-0.023	0.000	-0.022	0.000
Average wage per employee (base: less than \$20,000)						
\$20,000 to \$39,000	0.049	0.000	0.010	0.000	0.049	0.000
\$40,000 to \$59,000	0.041	0.000	0.011	0.000	0.090	0.000
\$60,000 to \$99,000	-0.001	0.233	0.007	0.000	0.084	0.000
\$100,000 to \$199,000	-0.042	0.000	-0.013	0.000	0.046	0.000
\$200,000 or more	-0.016	0.000	-0.026	0.000	0.029	0.000
Fixed-cost ratio (base: less than 0.10)						
0.10 to 0.19	0.030	0.000	0.053	0.000	0.021	0.000
0.20 to 0.39	0.013	0.000	0.084	0.000	0.014	0.000
0.40 to 0.79	-0.038	0.000	0.088	0.000	-0.033	0.000
0.80 or more	-0.042	0.000	0.075	0.000	0.061	0.000
Current ratio (base: less than 0.10)						
0.10 to 0.19	-0.016	0.000	-0.001	0.251	0.004	0.000
0.20 to 0.39	-0.024	0.000	-0.006	0.000	0.003	0.000
0.40 to 0.79	-0.046	0.000	-0.014	0.000	-0.013	0.000
0.80 or more	-0.072	0.000	-0.020	0.000	-0.038	0.000
Profit margins (base: zero profit or loss)						
0% to 9%	0.024	0.000	-0.002	0.001	0.017	0.000
10% to 19%	0.025	0.000	-0.010	0.000	0.008	0.000
20% to 39%	0.002	0.003	-0.022	0.000	0.001	0.124
40% to 79%	-0.034	0.000	-0.055	0.000	-0.036	0.000
80% or more	-0.040	0.000	-0.061	0.000	-0.058	0.000
Labour productivity (base: less than 50)						
50 to 99	0.010	0.000	0.011	0.000	0.025	0.000
100 to 149	0.016	0.000	0.012	0.000	0.032	0.000
150 to 199	0.024	0.000	0.019	0.000	0.042	0.000
200 to 299	0.015	0.000	-0.001	0.228	0.009	0.000
300 or more	-0.002	0.201	-0.011	0.000	-0.039	0.000

Notes: The four programs are the Canada Emergency Wage Subsidy (CEWS), Canada Emergency Business Account (CEBA), Canada Emergency Commercial Rent Assistance (CECRA) and Canada Emergency Rent Subsidy (CERS). In September 2020, the CERS replaced the CECRA, and because they were conceptually similar programs, the authors combined them as the CECE.

Source: Authors' calculations using business microdata and COVID-19 support program datasets.

Table 6

Value of COVID-19 liquidity support, by program and businesses characteristics

Ordinary least squares	CECE		CEWS		Programs combined (CEBA, CECE and CEWS)	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Ownership (base category: businesses owned by Canadian-born individuals)						
Businesses majority-owned by immigrants	0.125	0.000	0.006	0.195	0.051	0.000
Businesses minority-owned by immigrants	0.207	0.000	-0.006	0.661	0.058	0.000
Undetermined or no ownership information	0.219	0.000	0.151	0.000	0.082	0.000
Business size (base category: businesses with 1 to 4 employees)						
5 to 9 employees	0.728	0.000	0.860	0.000	0.413	0.000
10 to 19 employees	1.219	0.000	1.537	0.000	0.801	0.000
20 to 49 employees	1.809	0.000	2.253	0.000	1.313	0.000
50 employees or and more	2.560	0.000	3.428	0.000	2.449	0.000
Business age	-0.010	0.000	0.004	0.000	0.000	0.092
Province or territory (base category: Ontario)						
Atlantic provinces	-0.808	0.000	-0.116	0.000	-0.113	0.000
Quebec	-0.223	0.000	-0.111	0.000	-0.041	0.000
Manitoba	-0.425	0.000	-0.049	0.000	-0.074	0.000
Alberta	-0.086	0.000	0.061	0.000	0.012	0.000
British Columbia	-0.305	0.000	-0.065	0.000	-0.082	0.000
Saskatchewan and the territories	-0.485	0.000	-0.065	0.000	-0.063	0.000
Average wage per employee (base: less than \$20,000)						
\$20,000 to \$39,000	0.075	0.000	0.430	0.000	0.157	0.000
\$40,000 to \$59,000	0.288	0.000	0.786	0.000	0.279	0.000
\$60,000 to \$99,000	0.321	0.000	0.983	0.000	0.382	0.000
\$100,000 to \$199,000	0.341	0.000	0.912	0.000	0.293	0.000
\$200,000 or more	0.146	0.000	0.859	0.000	0.250	0.000
Fixed-cost ratio (base: less than 0.10)						
0.10 to 0.19	0.499	0.000	-0.045	0.000	0.038	0.000
0.20 to 0.39	1.052	0.000	-0.061	0.000	0.076	0.000
0.40 to 0.79	1.365	0.000	-0.164	0.000	0.006	0.131
0.80 or more	0.751	0.000	0.261	0.000	0.187	0.000
Current ratio (base: less than 0.10)						
0.10 to 0.19	0.091	0.000	0.031	0.000	0.020	0.000
0.20 to 0.39	0.069	0.000	0.005	0.270	0.000	0.968
0.40 to 0.79	0.079	0.000	-0.030	0.000	-0.043	0.000
0.80 or more	-0.084	0.000	-0.151	0.000	-0.101	0.000
Profit margins (base: zero profit or loss)						
0% to 9%	0.047	0.000	-0.032	0.000	-0.026	0.000
10% to 19%	-0.062	0.000	-0.055	0.000	-0.046	0.000
20% to 39%	-0.175	0.000	-0.115	0.000	-0.079	0.000
40% to 79%	-0.571	0.000	-0.226	0.000	-0.168	0.000
80% or more	-0.741	0.000	-0.184	0.000	-0.156	0.000
Labour productivity (base: less than 50)						
50 to 99	-0.035	0.000	0.096	0.000	0.074	0.000
100 to 149	0.192	0.000	0.078	0.000	0.059	0.000
150 to 199	0.336	0.000	-0.011	0.160	0.023	0.000
200 to 299	0.312	0.000	0.050	0.000	0.017	0.000
300 or more	0.094	0.000	-0.073	0.000	-0.063	0.000
Constant term	8.794	0.000	9.370	0.000	10.795	0.000

Notes: The four programs are the Canada Emergency Wage Subsidy (CEWS), Canada Emergency Business Account (CEBA), Canada Emergency Commercial Rent Assistance (CECRA) and Canada Emergency Rent Subsidy (CERS). In September 2020, the CERS replaced the CECRA, and because they were conceptually similar programs, the authors combined them as the CECE.

Source: Authors' calculations using business microdata and COVID-19 support program datasets.

5.2.2 Immigrant-owned businesses

The previous section compared the different use of the liquidity support programs by immigrant-owned businesses and those owned by Canadian-born individuals. This subsection focuses on the use of the programs among immigrant-owned businesses and examines whether the characteristics of their owners played a role.

Immigrant owners' characteristics and the likelihood of being a recipient:

Table 7 shows the characteristics of immigrant business owners and the likelihood of a business receiving liquidity support. According to the results, businesses minority-owned by immigrants were more likely to receive support from the CECE and the CEWS and less likely to receive support from the CEBA than businesses majority-owned by immigrants. However, the results for the CECE are not significant at the 5% level. Among immigrant-owned businesses, those led by women (where the leading business owner is a woman) were more likely to receive the CECE and the CEWS and less likely to receive the CEBA than businesses led by men.¹¹ Other characteristics of immigrant business owners are discussed in more detail below.

Columns 2 and 3 of Table 7 show the results for the CEBA. The likelihood of being a CEBA recipient declined as the business owners' education and age increased. In other words, the more educated and older the owner, the less likely the business was to receive the CEBA. Businesses owned by individuals born in Southern Asia and belonging to the refugee class had the highest likelihood of being CEBA recipients within their respective categories. Businesses owned by those who were admitted to Canada under the business class (principal applicant) category were the least likely to be CEBA recipients. The probability of a business receiving the CEBA was the lowest if its owner spoke both English and French, and business size had an inverted V-shaped relationship with the likelihood of receiving the CEBA. The likelihood reached a plateau for immigrant-owned businesses with 10 to 19 employees, and those with 50 employees or more had the least likelihood of being CEBA recipients. Also, older businesses were less likely to be CEBA recipients. Immigrant-owned businesses in Quebec were the most likely to be CEBA recipients, while those in Manitoba were the least likely. Businesses in the arts, entertainment and recreation sector had the highest probability of being CEBA recipients, followed by those in the accommodation and food services sector. The probability of being a recipient declined with the fixed-cost ratio, the current ratio and profit margins, similar to the results shown in Table 5.

The likelihood of receiving the CECE declined with the owners' education, and businesses whose owners held a doctoral degree at landing were the least likely to receive the CECE. There was no linear relationship between an immigrant-business owner's age and the probability of a business being a recipient. However, businesses whose owners were 65 years and older were the least likely to be recipients. Similarly, there was no linear relationship between the landing year of a business's owner and the likelihood of the business receiving support. However, immigrant-owned businesses whose owners arrived most recently (between 2015 and 2019) were the least likely to receive the CECE. Businesses whose owners' place of birth was in the category of "United States and other countries"¹² had the highest probability of being a recipient, while those whose owners were from Southern Asia had the lowest. Businesses whose owners came to Canada under the family class had the lowest likelihood of being recipients, while those whose owners were admitted to Canada under the business class and "other" categories had the highest. The likelihood was the lowest for those businesses whose owners spoke neither English nor French, and the probability of being a recipient increased with the size of a business, except for those with 50 employees or more, for which it declined slightly. There was a negative relationship between

11. Although some studies find that women are generally risk averse and hence are less likely to apply for loans (Jianakoplos & Bernasek, 1998; Croson & Gneezy, 2009), the CEBA was an almost risk-free loan. Therefore, more investigation is needed to study why women-led businesses, among immigrant-owned businesses, were less likely to receive the CEBA.

12. The categorization is based on the variable "world area of birth" from the Longitudinal Immigration Database (IMDB) where countries of birth were grouped into seven major areas.

the likelihood of being a recipient and the business age. Businesses in Ontario had the highest likelihood of receiving support, and those in Saskatchewan and the territories had the lowest. The probability of being a CECE recipient increased with the fixed-cost ratio up to 0.4, then declined. Overall, the probability of being a CECE recipient declined with the current ratio and profit margins, although this relationship was not perfectly linear.

As for the CEWS program, the likelihood of an immigrant-owned business being a recipient strictly increased with its owners' education, except for those with a doctoral degree. Businesses whose owners landed more recently were less likely to be CEWS recipients. Just as with the CECE, businesses with owners whose country of birth was in the category "United States and other countries" had the highest probability, while those with owners from Southern Asia had the lowest. Businesses whose owners came to Canada under the refugee class had the lowest probability of being a CEWS recipient, while those whose owners belonged to the "other" category had the highest. The likelihood of receiving the CEWS was the lowest for businesses whose owners who spoke neither English nor French, and it was greatest for those whose owners spoke only French. The probability strictly increased with business size, except for those with 50 employees or more, for which it declined slightly. There was no relationship between business age and the probability of being a CEWS recipient. Businesses in Alberta had the highest likelihood of being recipients, while those in Manitoba had the lowest. Businesses in the arts, entertainment and recreation sector had the highest probability of being CEWS recipients, and the likelihood of being a recipient declined with a business's fixed-cost ratio, except for businesses with the highest fixed costs. Moreover, similar to the overall business results in Table 5, the probability of being a CEWS recipient declined with a business's current ratio and profit margins.

Table 7

Businesses owned by immigrants and COVID-19 liquidity recipients

Probit	CEBA		CECE		CEWS	
	Marginal effects	P-value	Marginal effects	P-value	Marginal effects	P-value
Businesses minority-owned by immigrants (base: businesses majority-owned by immigrants)	-0.026	0.000	0.004	0.063	0.051	0.000
Women-led businesses (base: businesses led by men)	-0.008	0.000	0.015	0.000	0.007	0.001
Education (base: secondary school or less education)						
Trades, diploma or some university education	-0.004	0.009	0.004	0.002	0.025	0.000
Bachelor's or postgraduate degree	-0.004	0.005	-0.001	0.256	0.026	0.000
Master's degree	-0.014	0.000	-0.007	0.000	0.030	0.000
Doctoral degree	-0.041	0.000	-0.028	0.000	0.015	0.016
Owner's age (base: 24 and younger)						
25 to 34	0.020	0.005	-0.018	0.008	-0.022	0.089
35 to 44	0.023	0.001	-0.006	0.357	0.017	0.198
45 to 54	0.011	0.115	-0.013	0.051	-0.003	0.809
55 to 64	-0.013	0.062	-0.014	0.041	-0.010	0.433
65 and older	-0.051	0.000	-0.030	0.000	-0.069	0.000
Landing year (base: 1980 to 1984)						
1985 to 1989	-0.033	0.000	-0.039	0.000	-0.100	0.000
1990 to 1994	-0.020	0.000	-0.041	0.000	-0.113	0.000
1995 to 1999	-0.005	0.039	-0.038	0.000	-0.124	0.000
2000 to 2004	0.003	0.285	-0.028	0.000	-0.122	0.000
2005 to 2009	0.002	0.357	-0.033	0.000	-0.139	0.000
2010 to 2014	0.002	0.398	-0.039	0.000	-0.155	0.000
2015 to 2019	-0.019	0.000	-0.042	0.000	-0.196	0.000
Region of birth (base: Europe)						
Africa and the Middle East	0.048	0.000	0.016	0.000	-0.014	0.000
Eastern Asia	0.035	0.000	0.036	0.000	0.016	0.000
Oceania and other Asia	0.020	0.000	0.032	0.000	0.009	0.007
South and Central America	0.009	0.001	-0.004	0.052	-0.016	0.000
Southern Asia	0.059	0.000	-0.004	0.003	-0.017	0.000
United States or other countries	0.003	0.484	0.044	0.000	0.075	0.000
Admission category (base: economic class, spouse or dependant)						
Economic class, principal applicant (non-business class)	-0.006	0.001	-0.006	0.000	0.011	0.000
Business class, principal applicant	-0.013	0.001	0.019	0.000	0.010	0.091
Family class	0.005	0.001	-0.009	0.000	-0.016	0.000
Refugee	0.025	0.000	0.009	0.000	-0.028	0.000
Other	0.019	0.000	0.021	0.000	0.019	0.000
Language (base: English only)						
French only	-0.009	0.009	-0.002	0.402	0.029	0.000
English and French	-0.021	0.000	-0.009	0.000	0.011	0.004
Neither English nor French	-0.003	0.014	-0.014	0.000	-0.027	0.000

Notes: The four programs are the Canada Emergency Wage Subsidy (CEWS), Canada Emergency Business Account (CEBA), Canada Emergency Commercial Rent Assistance (CECRA) and Canada Emergency Rent Subsidy (CERS). In September 2020, the CERS replaced the CECRA, and because they were conceptually similar programs, the authors combined them as the CECE. Due to missing observations and converging issues, the labour productivity variable is dropped from the list of businesses' characteristics.

Source: Authors' calculations using business microdata and COVID-19 support program datasets.

Table 7

Businesses owned by immigrants and COVID-19 liquidity recipients (continued)

Probit	CEBA		CECE		CEWS	
	Marginal effects	P-value	Marginal effects	P-value	Marginal effects	P-value
Business size (base: 1 to 4 employees)						
No employees	-0.163	0.000	-0.077	0.000
5 to 9 employees	0.135	0.000	0.107	0.000	0.259	0.000
10 to 19 employees	0.146	0.000	0.167	0.000	0.377	0.000
20 to 49 employees	-0.018	0.000	0.186	0.000	0.437	0.000
50 employees or more	-0.314	0.000	0.160	0.000	0.391	0.000
Business age	-0.002	0.000	-0.001	0.000	0.000	0.836
Industry (base category: manufacturing)						
Agriculture, forestry, fishing and hunting; mining, quarrying, and oil and gas extraction; utilities; and construction	-0.033	0.000	-0.150	0.000	-0.119	0.000
Wholesale trade and transportation and warehousing	-0.041	0.000	-0.148	0.000	-0.166	0.000
Retail trade	0.000	0.936	-0.015	0.000	-0.092	0.000
Information and cultural industries; finance and insurance; real estate and rental and leasing; and professional, scientific and technical services	-0.078	0.000	-0.129	0.000	-0.119	0.000
Educational services	-0.015	0.000	-0.006	0.146	0.073	0.000
Health care and social assistance	0.008	0.326	0.033	0.000	0.061	0.000
Arts, entertainment and recreation	0.074	0.000	0.089	0.000	0.107	0.000
Accommodation and food services	0.023	0.000	0.073	0.000	0.053	0.000
Province or territory (base category: Ontario)						
Atlantic provinces	-0.035	0.000	-0.054	0.000	0.025	0.000
Quebec	0.009	0.000	-0.006	0.001	-0.011	0.000
Manitoba	-0.059	0.000	-0.053	0.000	-0.027	0.000
Alberta	0.003	0.034	-0.013	0.000	0.043	0.000
British Columbia	-0.015	0.000	-0.030	0.000	0.030	0.000
Saskatchewan and the territories	-0.015	0.000	-0.057	0.000	-0.002	0.710
Fixed-cost ratio (base: less than 0.10)						
0.10 to 0.19	0.035	0.000	0.079	0.000	0.041	0.000
0.20 to 0.39	0.028	0.000	0.116	0.000	0.029	0.000
0.40 to 0.79	-0.035	0.000	0.099	0.000	-0.068	0.000
0.80 or more	-0.051	0.000	0.091	0.000	0.168	0.000
Current ratio (base: less than 0.10)						
0.10 to 0.19	-0.007	0.000	-0.003	0.033	-0.002	0.532
0.20 to 0.39	-0.014	0.000	-0.008	0.000	-0.003	0.278
0.40 to 0.79	-0.024	0.000	-0.040	0.000	-0.045	0.000
0.80 or more	-0.049	0.000	-0.028	0.000	-0.058	0.000
Profit margins (base: zero profit or loss)						
0% to 9%	0.028	0.000	-0.019	0.000	-0.005	0.025
10% to 19%	0.012	0.000	-0.021	0.000	-0.010	0.001
20% to 39%	-0.005	0.005	-0.040	0.000	-0.024	0.000
40% to 79%	-0.054	0.000	-0.097	0.000	-0.076	0.000
80% or more	-0.075	0.000	-0.090	0.000	-0.133	0.000

Notes: The four programs are the Canada Emergency Wage Subsidy (CEWS), Canada Emergency Business Account (CEBA), Canada Emergency Commercial Rent Assistance (CECRA) and Canada Emergency Rent Subsidy (CERS). In September 2020, the CERS replaced the CECRA, and because they were conceptually similar programs, the authors combined them as the CECE. Due to missing observations and converging issues, the labour productivity variable is dropped from the list of businesses' characteristics.

Source: Authors' calculations using business microdata and COVID-19 support program datasets.

Immigrant owners' characteristics and the value of support:

Table 8 shows the relationship between the dollar value of the liquidity support received by immigrant-owned businesses and their owners' characteristics. The table shows the results for the CECE, the CEWS and when all the programs are combined (the CEBA, the CECE and the CEWS). The results for the CEBA are not discussed separately because the CEBA was a one-time loan with a possible top-up that did not vary across recipients. The results show that regardless of the program, businesses minority-owned by immigrants received more support than those majority-owned by immigrants when controlling for business owners' characteristics.

Moreover, while immigrant-owned businesses led by women received more dollar-value support from the CECE than those led by men, they received less support from the CEWS and when all the programs were combined. While this finding requires more investigation, the smaller size of women-led businesses, even within the same business-size class, may partially explain this result.

Results show that businesses whose owners held a master's or doctoral degree received the highest dollar value of the CEWS. However, those businesses were not better off as they received less CECE support, compared with those whose owners had a secondary school education or less. When all the programs were combined, their advantage weakened. Businesses whose owners arrived in Canada more recently received less support from the CEWS, the CECE and when all the programs were combined. While businesses whose owners were from the "United States and other countries" place of birth category received the highest value of the CECE and highest total value of all three programs combined, they received the lowest CEWS value. Businesses whose owners came from Eastern Asia received the second-highest value of the CECE and when all the programs were combined. However, businesses whose owners came from South and Central America received the lowest dollar-value support when the programs were combined. Businesses whose owners were admitted to Canada as refugees received the highest dollar value of the CECE and the lowest of the CEWS. In contrast, businesses whose owners were admitted under the business class (principal applicant) received the highest dollar value from the CEWS and the lowest when all the programs were combined. Regardless of the support program, businesses whose owners spoke neither English nor French received the lowest dollar value, and those whose owners spoke English and French received the highest.

The value of the liquidity support an immigrant-owned business received increased with its size, regardless of the program. Older businesses received lower CECE support, but higher CEWS support. When all the programs were combined, businesses in the health care and social assistance sector received the highest dollar value, while those in the retail trade sector received the lowest. Immigrant-owned businesses in the Atlantic provinces received the lowest dollar value, regardless of the program. In contrast, those in Ontario received the highest CECE dollar value, while those in Alberta received the highest CEWS dollar value.

Table 8

Businesses owned by immigrants and value of COVID-19 liquidity support

Ordinary least squares	Programs combined (CEBA, CECE and CEWS)		CECE		CEWS	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Businesses minority-owned by immigrants (base: businesses majority-owned by immigrants)	0.113	0.000	0.140	0.000	0.198	0.000
Women-led businesses (base: businesses led by men)	-0.020	0.000	0.058	0.000	-0.069	0.000
Education (base: secondary school or less education)						
Trades, diploma or some university education	0.031	0.000	-0.134	0.000	0.037	0.001
Bachelor's or postgraduate degree	0.033	0.000	0.012	0.438	0.024	0.043
Master's degree	0.024	0.000	-0.070	0.004	0.072	0.000
Doctoral degree	0.014	0.234	-0.076	0.141	0.072	0.019
Owner's age (base: 24 and younger)						
25 to 34	-0.013	0.565	-0.043	0.620	0.022	0.759
35 to 44	0.013	0.550	-0.024	0.784	-0.027	0.697
45 to 54	0.006	0.781	0.023	0.788	-0.028	0.689
55 to 64	-0.004	0.848	-0.027	0.758	0.010	0.888
65 and older	-0.078	0.001	0.116	0.194	-0.038	0.600
Landing year (base: 1980 to 1984)						
1985 to 1989	-0.064	0.000	0.473	0.000	-0.091	0.000
1990 to 1994	-0.105	0.000	0.415	0.000	-0.121	0.000
1995 to 1999	-0.090	0.000	0.444	0.000	-0.164	0.000
2000 to 2004	-0.100	0.000	0.435	0.000	-0.236	0.000
2005 to 2009	-0.107	0.000	0.383	0.000	-0.218	0.000
2010 to 2014	-0.113	0.000	0.398	0.000	-0.214	0.000
2015 to 2019	-0.155	0.000	0.305	0.000	-0.283	0.000
Country of birth (base: Europe)						
Africa and the Middle East	0.035	0.000	0.305	0.000	-0.034	0.009
Eastern Asia	0.079	0.000	0.483	0.000	0.007	0.608
Oceania and other Asia	0.046	0.000	0.296	0.000	-0.050	0.002
South and Central America	-0.023	0.002	0.119	0.000	-0.031	0.125
Southern Asia	0.046	0.000	0.257	0.000	0.018	0.168
United States or other countries	0.080	0.000	0.586	0.000	-0.240	0.000
Admission category (base: economic class, spouse or dependant)						
Economic class, principal applicant (non- business class)	0.024	0.000	0.144	0.000	0.033	0.007
Business class, principal applicant	-0.063	0.000	0.032	0.330	0.067	0.011
Family class	-0.014	0.001	0.225	0.000	-0.026	0.022
Refugee	-0.002	0.666	0.342	0.000	-0.086	0.000
Other	-0.024	0.000	0.238	0.000	0.014	0.345
Language (base: English only)						
French only	0.010	0.311	-0.008	0.811	-0.042	0.086
English and French	0.022	0.001	0.050	0.052	0.038	0.033
Neither English nor French	-0.027	0.000	-0.031	0.017	-0.039	0.000
Business size (base: 1 to 4 employees)						
5 to 9 employees	0.411	0.000	0.766	0.000	0.869	0.000
10 to 19 employees	0.755	0.000	1.318	0.000	1.523	0.000
20 to 49 employees	1.230	0.000	1.974	0.000	2.262	0.000
50 employees or more	1.958	0.000	2.609	0.000	3.145	0.000
Business age	0.001	0.006	-0.007	0.000	0.006	0.000

Notes: The four programs are the Canada Emergency Wage Subsidy (CEWS), Canada Emergency Business Account (CEBA), Canada Emergency Commercial Rent Assistance (CECRA) and Canada Emergency Rent Subsidy (CERS). In September 2020, the CERS replaced the CECRA, and because they were conceptually similar programs, the authors combined them as the CECE.

Source: Authors' calculations using business microdata and COVID-19 support program datasets.

Table 8

Businesses owned by immigrants and value of COVID-19 liquidity support (continued)

Ordinary least squares	Programs combined (CEBA, CECE and CEWS)		CECE		CEWS	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Industry (base category: manufacturing)						
Agriculture, forestry, fishing and hunting; mining, quarrying, and oil and gas extraction; utilities; and construction	-0.085	0.000	-0.154	0.000	0.024	0.281
Wholesale trade and transportation and warehousing	-0.135	0.000	-0.067	0.048	-0.192	0.000
Retail trade	-0.196	0.000	0.198	0.000	-0.562	0.000
Information and cultural industries; finance and insurance; real estate and rental and leasing; and professional, scientific and technical services	-0.094	0.000	-0.250	0.000	0.080	0.000
Educational services	-0.047	0.000	-0.014	0.607	-0.115	0.000
Health care and social assistance	0.167	0.000	0.792	0.000	-0.021	0.633
Arts, entertainment and recreation	0.003	0.687	0.045	0.073	-0.338	0.000
Accommodation and food services	-0.008	0.396	0.151	0.000	-0.164	0.000
Province or territory (base category: Ontario)						
Atlantic provinces	-0.124	0.000	-0.739	0.000	-0.161	0.000
Quebec	-0.075	0.000	-0.051	0.008	-0.151	0.000
Manitoba	-0.108	0.000	-0.375	0.000	-0.158	0.000
Alberta	0.004	0.425	-0.162	0.000	0.062	0.000
British Columbia	-0.034	0.000	-0.361	0.000	0.029	0.005
Saskatchewan and the territories	-0.118	0.000	-0.708	0.000	-0.082	0.005
Average wage per employee	0.000	0.002	-0.001	0.000	0.001	0.000
Fixed-cost ratio (base: less than 0.10)						
0.10 to 0.19	0.047	0.000	0.534	0.000	-0.095	0.000
0.20 to 0.39	0.101	0.000	1.168	0.000	-0.143	0.000
0.40 to 0.79	-0.028	0.000	1.398	0.000	-0.381	0.000
0.80 or more	0.178	0.000	1.368	0.000	0.401	0.000
Current ratio (base: less than 0.10)						
0.10 to 0.19	0.006	0.137	0.111	0.000	0.053	0.000
0.20 to 0.39	-0.024	0.000	0.120	0.000	-0.035	0.003
0.40 to 0.79	-0.053	0.000	0.107	0.000	-0.035	0.010
0.80 or more	-0.091	0.000	-0.071	0.000	-0.109	0.000
Profit margins (base: zero profit or loss)						
0% to 9%	-0.024	0.000	0.012	0.359	-0.059	0.000
10% to 19%	-0.060	0.000	-0.146	0.000	-0.112	0.000
20% to 39%	-0.080	0.000	-0.225	0.000	-0.227	0.000
40% to 79%	-0.176	0.000	-0.750	0.000	-0.332	0.000
80% or more	-0.108	0.000	-0.337	0.000	-0.228	0.000
Labour productivity (base: less than 50)						
50 to 99	0.131	0.000	0.056	0.000	0.288	0.000
100 to 149	0.159	0.000	0.323	0.000	0.406	0.000
150 to 199	0.149	0.000	0.644	0.000	0.256	0.000
200 to 299	0.084	0.000	0.368	0.000	0.323	0.000
300 or more	0.059	0.000	0.419	0.000	0.180	0.000
Constant term	11.112	0.000	7.576	0.000	10.061	0.000

Notes: The four programs are the Canada Emergency Wage Subsidy (CEWS), Canada Emergency Business Account (CEBA), Canada Emergency Commercial Rent Assistance (CECRA) and Canada Emergency Rent Subsidy (CERS). In September 2020, the CERS replaced the CECRA, and because they were conceptually similar programs, the authors combined them as the CECE.

Source: Authors' calculations using business microdata and COVID-19 support program datasets.

6. Conclusion

To support businesses affected by the pandemic, the Government of Canada launched various COVID-19 liquidity support programs. These programs were designed to help affected businesses by partially covering their main expenses, such as wages, rent and property expenses. This study focuses on four main COVID-19 support programs—the CEWS, the CECRA, the CERS and the CEBA. This paper combines data from the Canadian Employer–Employee Dynamics Database with data from these four support programs to study the use of the programs by immigrant-owned businesses and to compare the results with those of businesses owned by Canadian-born individuals.

The study analyzes the extensive and the intensive uses of these programs after controlling for business characteristics, that is, the likelihood of receiving liquidity support and the value of the support are studied. The results indicate that immigrant-owned businesses used the support programs slightly differently than those owned by Canadian-born individuals, even after controlling for their different characteristics. Businesses majority-owned by immigrants were more likely to receive the CEBA and the CECE (the CECRA and the CERS combined) and were slightly less likely to receive the CEWS than those owned by Canadian-born individuals. The marginally smaller use of the CEWS by businesses majority-owned by immigrants may reflect that they have a different cost structure from those owned by Canadian-born individuals, that is, their fixed costs are relatively higher than their labour costs, yielding them more benefits from using the CEBA and the CECE rather than using the CEWS. However, immigrant-owned businesses (majority- and minority-owned) received a higher dollar value than, or at least as much as, businesses owned by Canadian-born individuals, regardless of the support program.

Among immigrant-owned businesses, this study also finds that the characteristics of the owners played an important role in the use of the liquidity support programs. For example, women-led businesses were slightly more likely to be CECE and CEWS recipients, but less likely to be CEBA recipients. However, they received smaller amounts of the CEWS and when the programs were combined, compared with the businesses led by men. Businesses whose owners had a higher level of education were generally less likely to receive the CEBA or the CECE, but were more likely to receive the CEWS. They also received a greater value of the CEWS and a lower one of the CECE. Businesses whose owners arrived in Canada more recently were less likely to receive the CEWS, and generally, those businesses also received a lower dollar value. Businesses whose owners came to Canada as refugees were the most likely to receive the CEBA but were the least likely to receive the CEWS. Businesses whose owners spoke neither English nor French were less likely to receive the CECE and the CEWS, and they received the lowest dollar value when all programs were combined.

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