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## The Business Leaders' Pulse: An online business survey

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# The Business Leaders' Pulse— An Online Business Survey

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## Abstract

The Business Leaders' Pulse is a new online survey conducted each month. It is designed to provide timely and flexible input into the Bank of Canada's monetary policy decision making while also creating a platform to analyze business conditions and uncertainty. Since May 2021, the Bank has been reaching out to leaders of almost all types of businesses across the country with this short questionnaire inquiring about their sales and employment growth expectations, the risks to their business outlook, and topical questions that address specific information needs of the Bank. This survey is designed to complement the Bank's quarterly Business Outlook Survey conducted in person. The Business Leaders' Pulse has already proven valuable in getting timely feedback from firms about the effects of a rapidly changing economic environment, including the impact of COVID-19 and the Russian invasion of Ukraine. It has also helped Bank staff assess the extent of and reaction to ongoing economic challenges, such as supply chain bottlenecks and labour shortages.

*Topics: Monetary policy and uncertainty; Recent economic and financial developments*

*JEL codes: C83, D22, E32*

## Résumé

Le Pouls des entrepreneurs est une nouvelle enquête en ligne qui est menée chaque mois pour fournir, avec efficacité et souplesse, des renseignements servant à étayer les décisions de la Banque du Canada concernant la politique monétaire. L'enquête représente également une plateforme qui permet d'analyser la situation et l'incertitude des entreprises. Depuis mai 2021, la Banque communique avec les dirigeants de presque tous les types d'entreprises au pays et leur transmet ce court questionnaire afin de se renseigner sur leurs attentes quant à la croissance des ventes et de l'emploi, les risques pour leurs perspectives d'affaires et des sujets précis. Cette enquête sert de complément à l'enquête de la Banque sur les perspectives des entreprises, qui est menée chaque trimestre en personne. Le Pouls des entrepreneurs s'est déjà avéré un précieux atout pour connaître en temps opportun l'opinion des entreprises sur les effets d'une conjoncture économique évoluant rapidement, y compris les répercussions de la COVID-19 et l'invasion de l'Ukraine par la Russie. L'enquête a aussi aidé le personnel de la Banque à évaluer la portée des défis économiques qui se posent et la réaction des entreprises à ces défis, tels que les goulots d'étranglement dans les chaînes d'approvisionnement et les pénuries de main-d'œuvre.

*Sujets : Incertitude et politique monétaire; Évolution économique et financière récente*

*Codes JEL : C83, D22, E32*

## Introduction

Surveys of businesses and consumers are important inputs into monetary policy decision making. They provide direct insights that can challenge current economic thinking, uncover new themes, deliver timely information and answer questions that may be difficult to address using other sources. They also help to assess other sources of information use by central banks, including the results of output from state-of-the-art forecasting models, the transmission channels built into macroeconomic models, official statistical data and insights from cutting-edge economic research. Having survey information is particularly important because monetary policy is often conducted in an uncertain and changing economic environment.<sup>1</sup> During turning points in the business cycle or when the economy is hit by significant shocks, survey information can be especially useful.

The Business Leaders' Pulse (BLP) is a business survey that the Bank of Canada has conducted as an experiment since May 2021. The BLP complements the Bank's quarterly Business Outlook Survey (BOS), an interview-format survey that has been carried out for over 20 years.<sup>2</sup> In contrast, the BLP is a short, monthly, web-based panel survey. It collects responses from a diverse monthly sample of 300 to 500 Canadian businesses across regions, industries and firm sizes—including very small firms that are excluded from the BOS. The objective of the BLP is to provide timely and flexible input into monetary policy decision making while also creating a tool for analyzing business uncertainty.

The BLP has already proven itself to be a source of timely business intelligence. For example:

- In January 2022, it quantified the deterioration in business sentiment due to the recent arrival of the Omicron variant of COVID-19.
- In March 2022, it showed that many firms were concerned about the potential for Russia's invasion of Ukraine to add to pressure on prices.

In these cases and others, the BLP was able to react faster and obtain more up-to-date information than other sources, including the BOS.

Beyond these timely inputs, the BLP has also provided insights about how the current economic landscape is affecting Canadian firms. It has confirmed and reinforced results from the BOS and other surveys that show that labour shortages, supply chain issues and cost pressures are at the forefront of firms' concerns. And it has looked further than these other surveys to describe how firms are responding to these challenges and how long they expect these issues to persist. As the survey collects more data, additional insights will be gained about how these and other key themes, including business uncertainty, are evolving.

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<sup>1</sup> See Mendes, Murchison and Wilkins (2017).

<sup>2</sup> See Amirault, Rai and Martin (2020).

## Why the Bank of Canada conducts business surveys

Business sentiment surveys ask senior company officials questions about their outlook for their firm and industry, as well as their plans and expectations for the future. Surveys help to forecast and understand movements in macroeconomic variables, including:

- economic growth
- capacity pressures
- employment and investment intentions
- wages
- labour market tightness
- input and output prices
- inflation expectations
- credit conditions

Experiences in many countries have shown that these types of surveys can provide valuable information relevant to economic policy decision making.<sup>3</sup>

The BOS is the Bank's flagship business survey. It uses in-depth personal interviews with senior managers at Canadian firms to collect both quantitative and qualitative information.<sup>4</sup> Bank staff use the results of the BOS to complement other information that the Bank's Governing Council relies on as it works toward a monetary policy decision. The survey is a particularly useful source of information about business confidence during periods of crisis or significant economic slowdowns, such as:

- the recession caused by the 2008–09 global financial crisis
- oil price shocks between 2014 and 2016
- the COVID-19 pandemic<sup>5</sup>

Even though the BOS excels in producing in-depth information relevant to current monetary policy decisions, its in-depth, personal format limits its ability to quickly gather information from a large sample of firms. This can be a disadvantage during periods of rapid economic change. For example, the spring 2020 BOS contributed little to the Bank of Canada's April 2020 monetary policy decision because the survey was conducted in February 2020, just before the worst part of the pandemic's shock to the Canadian economy. Similarly, official data and most other survey data did not reflect the new economic reality of the pandemic for weeks or months. To fill the void, the Bank's regional staff were able to reach out promptly to their extensive network of industry contacts, arrange virtual meetings and provide timely and relevant information to Governing Council.<sup>6</sup>

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<sup>3</sup> See Organisation for Economic Co-operation and Development (2003). The [Federal Reserve Bank of Atlanta](#) (2022) hosts a database of business and consumer surveys conducted by central banks around the world.

<sup>4</sup> See [D'Souza and Voll \(2021\)](#) for a review of how and why central banks use in-depth interviews in the conduct of monetary policy.

<sup>5</sup> The Bank also relies on information from a variety of business surveys conducted by other organizations, including Statistics Canada and industry groups. But these surveys are not primarily designed for monetary policy decision making and therefore do not collect some kinds of information that are valuable to the Bank.

<sup>6</sup> See [Box 1 in the Business Outlook Survey—Spring 2020](#) (Bank of Canada 2020).

## The Business Leaders' Pulse

In May 2021, the Bank began to experiment with a new kind of survey—the BLP. The objective of this survey is to complement the BOS by:

- gathering timely information from businesses faster and more frequently
- reaching out to a larger and more diverse group of firms
- asking precise, quantitative questions
- tracking responses from a panel of firms over time

The BLP takes into account lessons learned from a pilot electronic Business Outlook Survey (e-BOS) that was conducted in 2018 and 2019.<sup>7</sup> It differs from the e-BOS by administering the online survey monthly and in-house—not outsourced to a market research firm. The BLP also takes advantage of the experience and methodologies of two online central bank surveys that ask business leaders to complete a short monthly questionnaire: the Bank of England's [Decision Maker Panel \(DMP\)](#) and the Federal Reserve Bank of Atlanta/Chicago Booth/Stanford's [Survey of Business Uncertainty \(SBU\)](#).<sup>8</sup>

The format of the BLP, together with its in-house administration, allows for new questions to be added and the survey distributed to respondents in a short amount of time—usually within a few days. This is especially important when the economy is faced with a new shock and the Bank is uncertain about its impact. Further, since many firms remain on the panel and complete the survey in later months, Bank staff can track how individual responses change over time.

This short online survey has broadened the Bank's reach and over time will increase the diversity of the Bank's network of contacts. Staff now have more opportunities to talk to business executives who traditionally may not have been reached by the BOS because of time and travel constraints associated with in-person conversations. This includes meeting with decision makers in smaller firms and in firms located in less urban areas.<sup>9</sup>

The BLP is highly flexible in the types of questions it asks. This may improve the reliability of the data collected and staff confidence in the Bank's business intelligence. Closed-ended, or more structured, questions are used extensively in the BLP to extract information from respondents. These questions can be specific and precise, such as asking firms about their sales expectations in dollar terms for the coming year. In other situations, the survey can present single- or multiple-choice questions as well as rating scales, which respondents may find more meaningful or easier to answer.<sup>10</sup>

The BLP adopts from the DMP and SBU surveys a series of questions designed to collect probabilities that respondents assign to different future sales and employment outcomes. These questions allow researchers and policy-makers to examine both expectations and the uncertainty around these expectations. Increased uncertainty about a firm's external environment can have a large impact on business confidence, which in turn may affect the firm's financial planning and investment decisions.

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<sup>7</sup> See [D'Souza, Fudurich and Suvankulov \(2021\)](#).

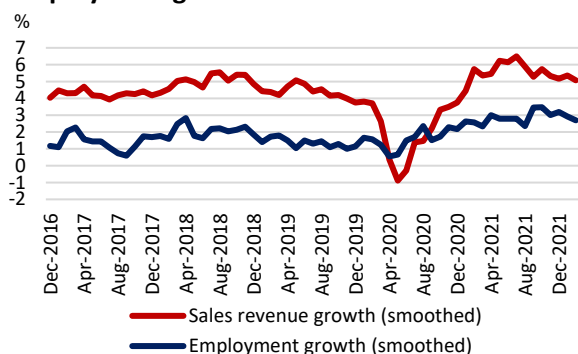
<sup>8</sup> Results from the DMP and SBU are used to brief members of the Bank of England's Monetary Policy Committee and the Federal Reserve Bank of Atlanta executive, respectively, when they formulate monetary policy. [Watch Atlanta Fed president Raphael Bostic discuss](#) the importance of the SBU data in formulating monetary policy.

<sup>9</sup> The BLP aims to contact business executives who have a strategic view of their firm's prospects. This perspective is important because Bank staff are interested not only in forecasts but also in an assessment of the risks associated with the forecasts.

<sup>10</sup> The BLP survey questions can also be open-ended. These questions serve as an exploratory tool, providing information on developments in the economy not currently on the Bank's radar—the known unknowns and unknown unknowns.

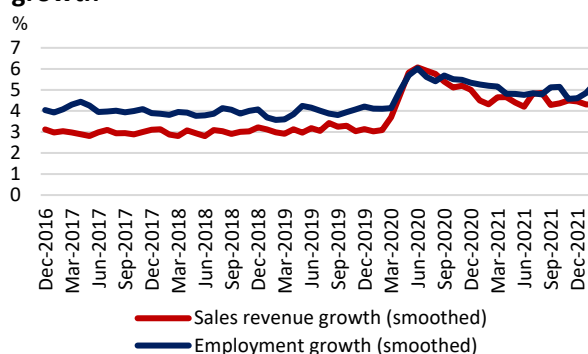
Further, uncertainty surges in times of economic and financial stress, such as the global financial crisis or the start of the COVID-19 pandemic and shutdown.<sup>11</sup> The SBU found that the COVID-19 pandemic has had a clear impact on business sales expectations and uncertainty in the United States (**Chart 1** and **Chart 2**).<sup>12</sup> It is too early to conduct a similar analysis with BLP data, but eventually it will be possible to compare the results of the BLP and the SBU across time and evaluate whether the uncertainty measures are a useful input in Bank forecasts and monetary policy deliberations.

**Chart 1: Expectations for sales and employment growth**



Source: Federal Reserve Bank of Atlanta/Chicago Booth/Stanford  
Last observation: February 2022

**Chart 2: Uncertainty about 4-quarter ahead growth**



Source: Federal Reserve Bank of Atlanta/Chicago Booth/Stanford  
Last observation: February 2022

## Panel recruitment

The BLP collects responses from between 300 and 500 firms each month, including new and returning panel members. The panel is constructed to be both geographically and industrially representative of the Canadian economy. Specifically, it aims to include approximately 300 small, medium-sized and large firms operating in Canada, as well as 150 microfirms with fewer than 20 employees. Compared with the BOS, the BLP samples a higher percentage of smaller firms. This reflects the larger share of these firms operating in the Canadian economy—those with fewer than 20 employees make up 86% of all Canadian businesses. Including microfirms also increases the diversity of the survey and complements the BOS.

Every month, Bank staff use two sources to select firms to invite: Statistics Canada’s Business Register and the Bank of Canada’s network of contacts.<sup>13</sup> The Bank has built up a database over many years that includes all firms that have participated in the BOS over the past decade. The BLP gives the Bank an opportunity to re-engage with these firms more frequently than the BOS. Invitations follow the survey’s regional and industrial quotas. These quotas are based on the most current industry and regional compositions of Canadian gross domestic product (GDP).<sup>14</sup>

<sup>11</sup> The literature offers a wide range of empirical proxies for uncertainty. The volatility of stock market performance (e.g., Baker, Bloom and Davis 2016), the dispersion in point forecasts (e.g., Baetje and Friedrici 2016), the prevalence of surprises in economic data (Scotti 2013) and counts of uncertainty-related words in newspapers (e.g., Baker, Bloom and Davis 2016) have been widely used as proxies for uncertainty. According to Altig et al. (2019), however, most of these measures struggle with assessing a firm-level subjective (perceived) uncertainty.

<sup>12</sup> For more details, see Altig et al. (2021).

<sup>13</sup> The [Business Register](#) is an exhaustive list, based on administrative data, of firms operating in Canada. It provides the statistical sampling frames for business surveys administered by Statistics Canada.

<sup>14</sup> Industry aggregates are defined by North American Industry Classification System codes as follows: primary (PRIM): 11 and 21; manufacturing (MANU): 311–339; construction, information, transportation and utilities (CITU): 22, 23, 48, 49 and 51; trade (TRAD): 41, 44 and 45; finance, insurance, real estate, rental and leasing (FIRE): 52–53; and commercial, personal and business services (CPBS): 54, 55, 56, 71, 72 and 81. Regions are defined as Atlantic Canada, Ontario, Quebec, Prairies and British Columbia.



Once the Bank has a list of potential participants each month, the recruitment process starts in earnest. First, staff research each firm to confirm contact information and basic firm data. Second, the Bank's cloud-based survey software emails invitations to participants.<sup>15</sup> Third, staff members follow up with a personal email or telephone call to non-respondents to inquire about the business leader's interest in joining the panel and to answer any questions about the survey. Existing panel members receive the link to the survey each month and, if necessary, are sent email reminders to complete the questionnaire. The survey is open for a three-week period for both returning and new panel members. On average, Bank staff spend between 10 and 20 minutes researching and engaging with each targeted new firm. During this initial experimental phase with the BLP, firms remain in the survey panel in all subsequent monthly waves but are under no obligation to answer every month. Eventually, firms will be removed from the panel if they do not respond for an extended period.

## Sample characteristics

The survey has expanded rapidly over its first year to include a panel of more than 900 firms from across the country, from which we obtain between 300 and 500 completed surveys each month. The sample reflects the diversity of Canada and is broadly representative along several dimensions.

**Figure 1** shows the geographic distribution of respondents across Canada as of February 2022. They are clustered around population centres but are geographically diverse, and some are from less-populated regions. **Chart 3** and **Chart 4** provide details about the BLP panel composition by region and sector, respectively, compared with 2019 shares of real GDP. These results include all firms that have answered a survey at least once. By region, the panel is broadly in line with GDP shares, with British Columbia slightly overrepresented and Atlantic Canada slightly under-represented. By sector, the panel broadly matches the Canadian economy. There is, however, an overrepresentation of financial, insurance, real estate, rental and leasing firms. The higher response rate from this industry is likely due to their knowledge and interest in the Bank of Canada's interest rate decision making. Mining, quarrying, and oil and gas production is somewhat under-represented. This industry, while economically large, is dominated by a small number of firms.

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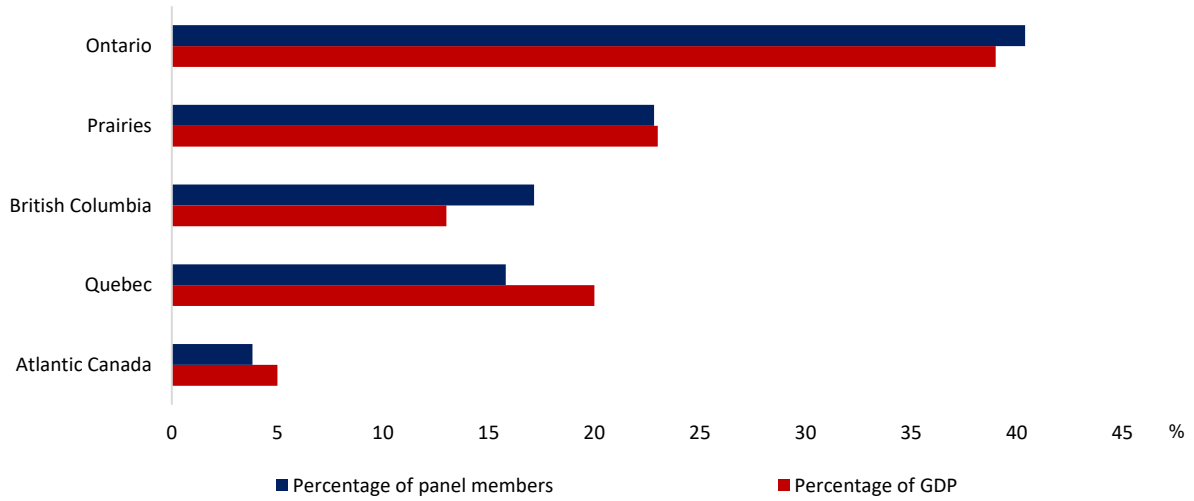
<sup>15</sup> The cloud-based survey software Qualtrics is used to administer the survey and securely manage the database of respondents.

**Figure 1: Panel composition by postal code as of February 2022**



Source: Bank of Canada

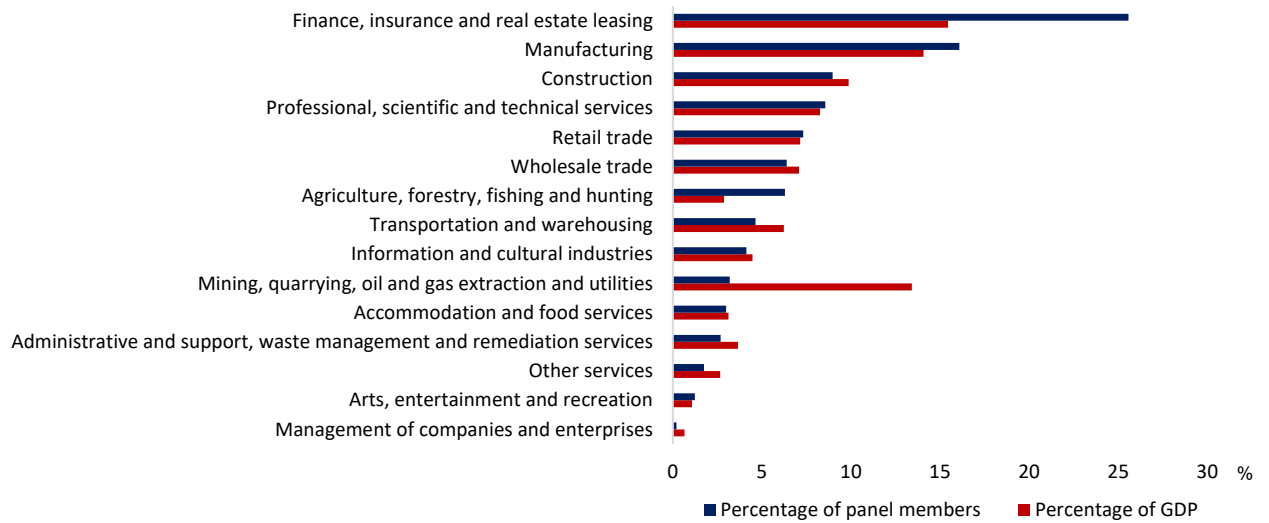
**Chart 3: Comparison of panel composition by region with GDP**



Sources: Bank of Canada and Statistics Canada

Last observations: BLP, 2022; Statistics Canada, 2019

**Chart 4: Comparison of panel composition by sector with GDP**



Sources: Bank of Canada and Statistics Canada

Last observations: BLP, 2022; Statistics Canada, 2019

Bank staff also examine the distribution of firms in the panel by number of employees. **Chart 5** shows the BLP panel composition by size compared with the contributions to GDP in 2018 of small, medium-sized and large businesses.<sup>16</sup> The majority of firms operating in Canada, and therefore the majority listed in the Business Register, are small firms. The BLP undersamples small firms relative to the share of these firms operating in the economy but oversamples them relative to their contribution to GDP. Medium-sized firms in the BLP broadly match their contribution to GDP. Large firms are under-represented in the BLP relative to their contribution to GDP. This reflects the small proportion of large firms operating in Canada, as demonstrated in the Business Register.<sup>17</sup>

The initial response rate is measured as the percentage of firms responding to their first survey divided by the number of leads targeted each month. The first few times the survey was conducted, the initial response rate for firms with 20 or more employees was 10%. As the experience of the recruiting team members increased, and as their approach evolved, the response rate for firms of this size climbed to between 12% and 15% (**Table 1**).<sup>18</sup> Bank staff do expect attrition of panel members over time. As shown in **Appendix A**:

- about 49% of firms respond to the survey a second time
- more than 35% of panellists complete three or more surveys
- around 30% of participants respond at least four times

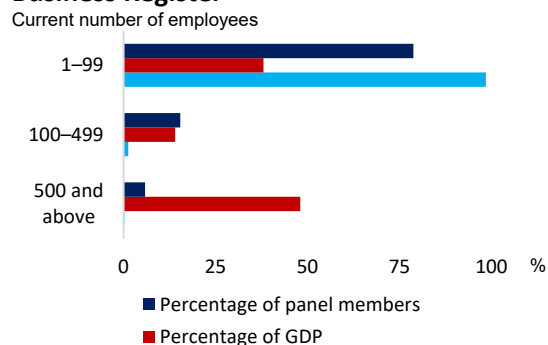
Analysis of BLP results must consider possible sample selection and non-response bias. If respondents are systemically different from other firms, this might affect the reliability of results. The BLP response

<sup>16</sup> Not all panel members have self-reported their number of employees.

<sup>17</sup> We also ask panel respondents to provide their job title. Most respondents are clearly in a leadership role, with 65% leading the company (president, chief financial officer, owner or chief executive officer). **Chart 6** illustrates the panel composition for respondents in small, medium-sized and large firms but excludes microfirms (36% of the panel). Respondents in microfirms often do not report their title.

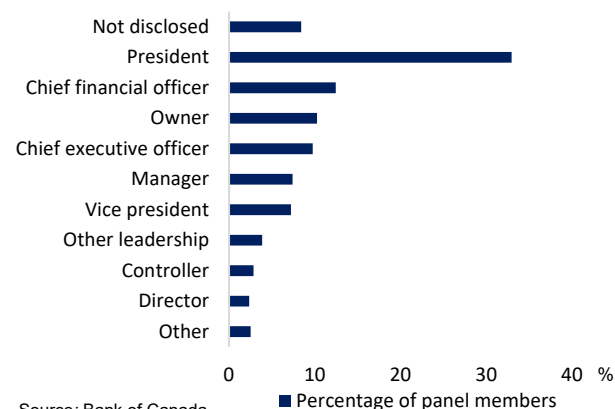
<sup>18</sup> **Table 1**, **Table A-2** and **Table A-3** include respondents from distribution lists that contain small, medium-sized and large firms (and exclude respondents from distribution lists that exclusively contain microfirms), who have responded to at least one core module after joining the panel.

**Chart 5: Comparison of panel composition by number of employees with GDP and the Business Register**



Sources: Bank of Canada and Statistics Canada  
Last observations: BLP, 2022; Statistics Canada, 2021

**Chart 6: Panel composition by title**



Source: Bank of Canada  
Last observation: February 2022

rates are, however, as good as or better than those of similar surveys that have a history of providing valuable input to central bank policy deliberations. In addition, many characteristics of BLP firms are consistent with Canadian averages. In the future, further research and analysis based on the BLP might also lead to a reweighting of the results to improve the survey’s representativeness.

Continuing to build and maintain the sample is one of the biggest challenges and most important elements of conducting the BLP. It requires careful effort to establish trust with new participants and encourage existing ones to return. Participants become part of the Bank’s network that facilitates two-way sharing of information through a variety of channels. Ongoing engagement with BLP panel members, including briefing sessions after the release of major publications, helps solidify this relationship. The BLP team also watches closely for evidence of survey fatigue that may decrease participation.

**Table 1: Response rates for invitations to the BLP (excluding microfirms)**

Date joined	Invitations sent	First survey completed	Response rate (%)
May 2021	210	15	7
June 2021	604	53	9
July 2021	483	22	5
August 2021	313	53	17
September 2021	437	56	13
October 2021	462	61	13
November 2021	588	54	9
December 2021	393	38	10
January 2022	239	36	15
February 2022	230	28	12
<b>Total</b>	<b>3,959</b>	<b>416</b>	<b>11</b>

Note: Numbers may not add to total due to rounding.

## Questionnaire

The BLP has three modules: sales, employment and special questions. Each module is sent to a different cohort of the survey panel each month so that each cohort receives around one-third of the questions. The first two modules focus on obtaining a probability distribution of possible outcomes for sales and employment growth rates, respectively (**Appendix C**). The third is reserved for ad hoc questions of policy importance (**Appendix D**).

In the sales and employment modules, the respondent is asked to quantify a range of growth scenarios for the next year before being asked to assign a probability to each scenario. This measures their subjective probability distribution over the different scenarios.

The set of five future sales growth rates is labelled  $\{FSGR\}_{i=1}^5$ , and the associated probabilities is labelled  $\{p\}_{i=1}^5$  (**Appendix C**). Based on growth rate values and the associated probability distribution, the respondent's mean expectation of sales growth is calculated as:

$$Mean (FSGR) = \sum_{i=1}^5 FSGR_i p_i. \quad (1)$$

The respondent's subjective uncertainty (or the standard deviation) can then be estimated as:

$$SD (FSGR)_i = \sqrt{\sum_{i=1}^5 p_i (FSGR_i - Mean (FSGR))^2} . \quad (2)$$

Using the five-point distribution, the most common parametric distributions can be approximated.<sup>19</sup> An arithmetic mean (or other central tendency measure) of the firm-level data, such as the standard deviation,  $SD (FSGR)_i$ , can serve as a proxy for uncertainty across survey participants. Questions on employment growth are asked and analyzed in a similar manner.

In addition to the sales and employment questions, ad hoc topical questions, called special questions, are asked in each survey (**Appendix D**). A small number of special questions are asked alongside the questions in the sales and employment modules, and a larger number are posed to the third cohort of respondents in the special questions module. These questions are determined each month based on the policy issues of interest to the Bank.

To reduce panel attrition rates and avoid survey fatigue among respondents, the questionnaires are short, with no more than 10 questions. The target completion time is six to eight minutes for most respondents. Dividing the survey panel into three rotating cohorts and splitting the questions into three modules helps to achieve this target. New firms that join the panel are added to the cohort that receives the module with special questions in the current month. In other words, the cohorts are replenished with new panel members every three months when they are sent the survey with special questions. The cohort rotation scheme also ensures that, every three months, panel members receive the same core sales and employment questions. This allows Bank staff to assess the evolution of business conditions over time.

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<sup>19</sup> This includes symmetric and asymmetric, single- and multi-mode, thin- and fat-tailed distributions (see Altig et al. 2020).

## Initial results

Although the BLP is still in an experimental phase, it has already provided valuable input on business conditions and outlooks. This section provides examples of the types of results obtained so far.

Some BLP analysis is targeted at short-term developments that cannot easily be assessed in any other way. For example:

- In early January 2022, the BLP found that 43% of firms anticipated that the Omicron variant of COVID-19 would negatively affect them, with an average expected sales loss of 24% over six months.
- Following the invasion of Ukraine by Russia, the module of special questions in early March 2022 included a series of questions about the impact of the war on Canadian businesses.
- The survey also collected valuable details on the changes in operations firms anticipate making in response to supply chain challenges. Some of the results were published in the [Business Outlook Survey—First Quarter of 2022](#).

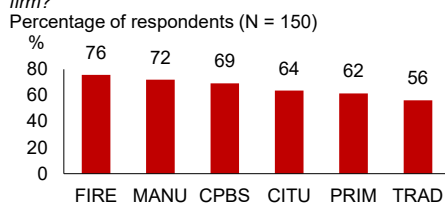
The BLP also helps to expand on findings in the BOS. For example:

- It confirmed that businesses' most pressing concerns in recent months have been labour shortages, supply chain disruptions and the costs associated with these two challenges.
- It also provided further information on firms' responses to these challenges and on how long firms expect these issues to persist.

Across almost all industries, businesses reported that labour shortages are causing a loss of sales (**Chart 7**). They described reacting to these labour shortages in a variety of ways, notably by increasing recruiting efforts, raising wages and turning away work (**Chart 8**).

**Chart 7: Labour shortages leading to decreases in sales, by sector**

Are labour shortages holding back sales at your firm?



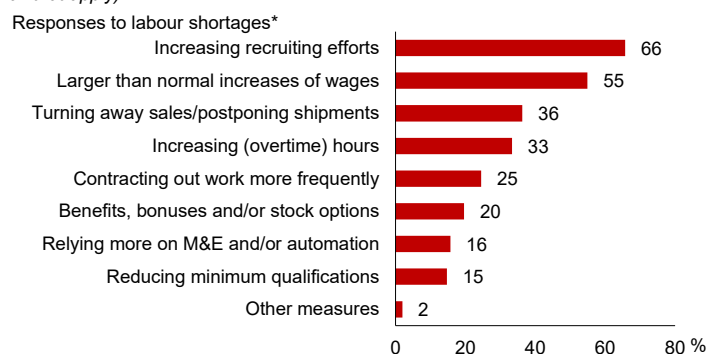
Note: Sectors are defined by North American Industry Classification System codes as follows: finance, insurance, real estate, rental and leasing (FIRE, n = 37): 52–53; manufacturing (MANU, n = 25): 311–339; commercial, personal and business services (CPBS, n = 26): 54, 55, 56, 71, 72 and 81; construction, information, transportation and utilities (CITU, n = 33): 22, 23, 48, 49 and 51; primary (PRIM, n = 13): 11 and 21; and trade (TRAD, n = 16): 41, 44 and 45.

Source: Bank of Canada

Last observation: October 2021

**Chart 8: Firms' reactions to shortages in labour**

What measures are you taking in response to the labour shortages, if any? (Select all that apply)



\* Percentage of firms that said they were experiencing labour shortages (n = 79)

Note: M & E is machinery and equipment.

Source: Bank of Canada

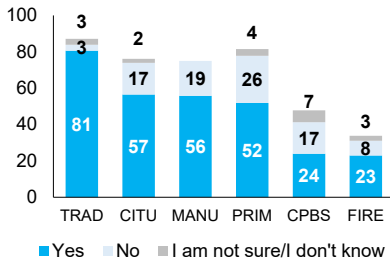
Last observation: October 2021

Another important issue is supply chain disruptions, which have been significantly affecting firms' sales. **Chart 9** shows that firms across most industries have been losing sales because of supply chain issues, with the most severe effects in retail and wholesale trade, construction and manufacturing. Firms responding to the survey lost, on average, 17% of sales (**Chart 10**), and most expect these supply chain issues to last between 7 and 24 months (**Chart 11**).

**Chart 9: Supply chain issues causing sales declines are most frequent in trade, construction, and manufacturing firms**

Are supply chain disruptions holding back sales and other business activities at your firm?

Percentage of respondents (N = 276)  
%



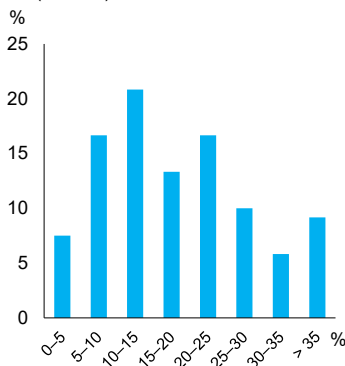
Note: Sectors are defined by North American Industry Classification System codes as follows: trade (TRAD, n = 31): 41, 44 and 45; construction, information, transportation and utilities (CITU, n = 46): 22, 23, 48, 49 and 51; manufacturing (MANU, n = 52): 311–339; primary (PRIM, n = 27): 11 and 21; commercial, personal and business services (CPBS, n = 46): 54, 55, 56, 71, 72 and 81; and finance, insurance, real estate, rental and leasing (FIRE, n = 74): 52–53.

Source: Bank of Canada  
Last observation: January 2022

**Chart 10: Firms' estimated decline in sales due to supply chain disruptions**

Roughly, what % of sales in your estimates are lost because of the supply chain disruptions?

Percentage of respondents who reported that supply chain disruptions are holding back sales (n = 122)



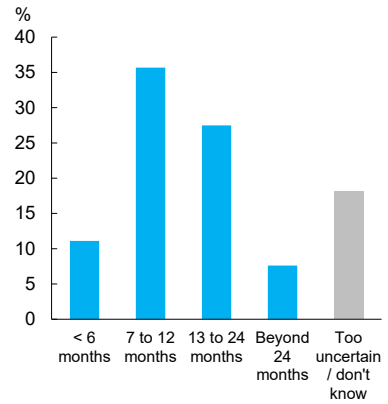
Decline in sales

Source: Bank of Canada  
Last observation: January 2022

**Chart 11: Most firms facing supply chain issues expect them to persist for 7 to 24 months**

Over what time frame do you expect the supply chain difficulties to resolve?

Percentage of respondents experiencing supply chain disruptions (n = 171)



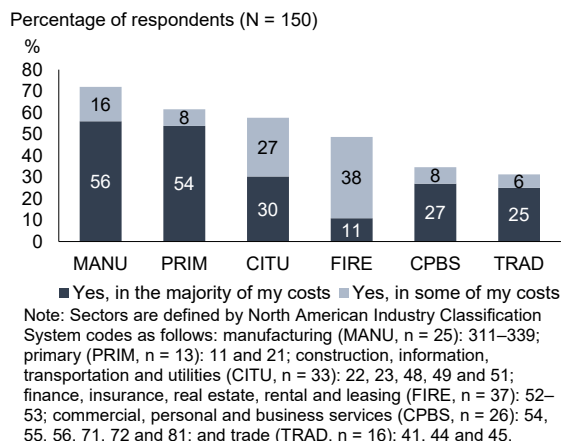
Duration of supply chain issues

Source: Bank of Canada  
Last observation: January 2022

Finally, labour shortages and supply chain disruptions are creating cost pressures for firms (**Chart 12**). Firms often pass through cost pressures by increasing their output prices (**Chart 13**). Bigger and more widespread cost pressures are more likely to be passed through. The topics above demonstrate the

**Chart 12: Cost pressures by sector**

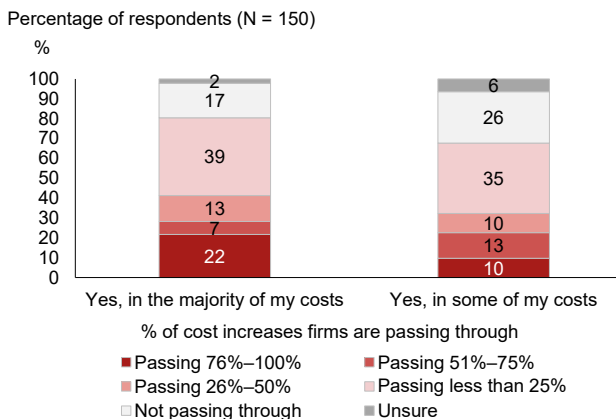
*Have you recently been experiencing larger-than-normal increases in your costs (including materials, parts, input services, labour, etc.)?*



Source: Bank of Canada  
Last observation: October 2021

**Chart 13: Firms are passing on cost increases to their customers**

*To what extent are these larger-than-normal cost increases being passed through to customers in the prices you charge?*



Source: Bank of Canada  
Last observation: October 2021

ability of the BLP to obtain useful insights on the economic issues of the day. Indeed, often this survey obtains quantitative assessments beyond what is possible in the BOS. One of the BLP’s most valuable features has been its flexibility in the rapidly changing economic environment that has characterized much of the past two years.

## Summary and conclusion

The BLP has already shown that it can provide timely and flexible input into monetary policy decisions. Within days, a new questionnaire can be designed, tested and sent out to the Bank’s panel of businesses. Results from the survey can then be quickly shared with Bank staff to update the short-term monitoring of the Canadian economy and inform the medium-term economic outlook. The BLP can be especially important when the Bank is faced with new questions about developments in the economy that may be difficult to address with existing data and models. Results to date confirm the benefits of similar surveys conducted by the Federal Reserve Bank of Atlanta and the Bank of England.

The Bank of Canada still considers the survey to be experimental. More work is needed to assess the representativeness of the sample over time and the reliability of the survey results. Some kinds of data, such as the data on uncertainty, can be fully assessed only once a longer time series is available. The Bank plans to continue to experiment with the BLP to assess both the value of the information it provides and the Bank’s ability to efficiently maintain a representative group of business participants.



## Appendix A: Response rates and attrition

**Table A-1: Return rates of firms that complete at least one survey**

Respond at least two times	49%
Respond at least three times	37%
Respond at least four times	30%

**Table A-2: Response rates for invitations to the Business Leaders' Pulse survey (excluding microfirms)**

Sector	Invitations sent	First survey completed	Non-responses	Response rate (%)
Health care, social assistance, education and public administration	5	1	4	20
Management of companies and enterprises	10	0	10	0
Arts, entertainment and recreation	44	4	40	9
Other services	63	8	55	13
Administrative and support, waste management and remediation services	124	10	114	8
Accommodation and food services	156	14	142	9
Mining, quarrying, oil and gas extraction and utilities	214	17	197	8
Transportation and warehousing	192	17	175	9
Information and cultural industries	165	14	151	8
Agriculture, forestry, fishing and hunting	215	17	198	8
Wholesale trade	232	27	205	12
Retail trade	293	30	263	10
Professional, scientific and technical services	266	32	234	12
Construction	483	47	436	10
Manufacturing	722	71	651	10
Financial, insurance and real estate leasing	775	107	668	14
<b>Total</b>	<b>3,959</b>	<b>416</b>	<b>3,543</b>	<b>11</b>

Note: Numbers may not add to total due to rounding.

**Table A-3: Response rates for invitations to the Business Leaders' Pulse survey (excluding microfirms)**

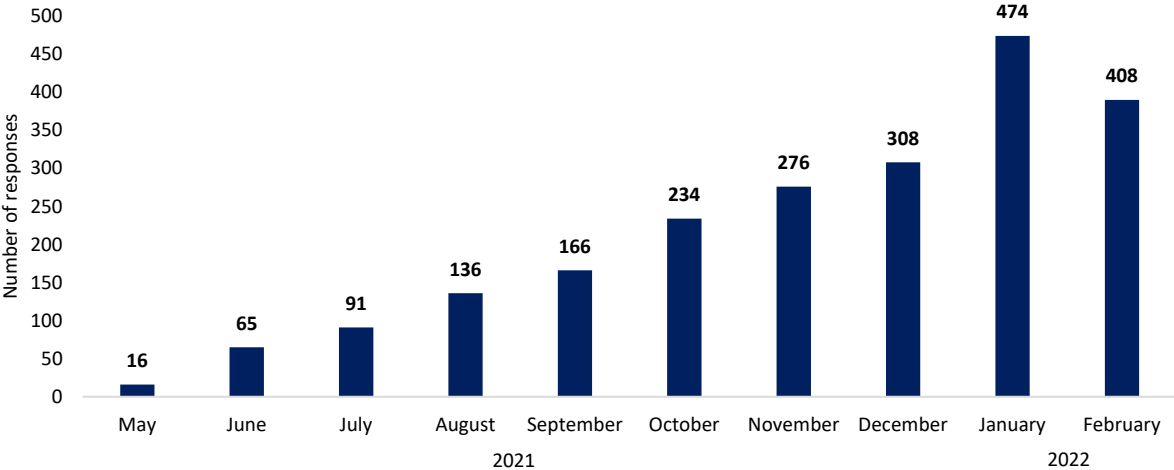
Firm size by number of employees	Invitations sent	First survey completed	Non-responses	Response rate (%)
More than 500	377	40	337	11
100 to 499	916	95	821	10
20 to 99	2,486	206	2,280	8
1 to 19	180	75	105	42
<b>Total</b>	<b>3,959</b>	<b>416</b>	<b>3,543</b>	<b>11</b>

Note: Numbers may not add to total due to rounding.

# Appendix B: Monthly responses

Monthly responses and sample size have grown considerably each month (**Chart B-1**). More than 900 firms have joined the BLP online panel. Of these, 771 are active respondents, defined as respondents that joined the panel and also completed at least one core module since the beginning of May 2021.

**Chart B-1: Business Leaders' Pulse responses by survey month**



Source: Bank of Canada

Last observation: February 2022

## Appendix C: Screenshots of core questions

### Core sales questions

*Asked in all BLP Sales module since May 2021*

For the current quarter, what would you estimate the total dollar value of your **sales revenue** will be?

Looking back, over the past twelve months, what was the approximate percentage **growth rate in your sales revenue**?

%

Looking ahead, from now to four quarters from now, what approximate percentage **sales revenue growth rate** would you assign to each of the following scenarios?

The LOWEST percentage sales revenue growth rate would be about: %

A LOW percentage sales revenue growth rate would be about: %

A MIDDLE percentage sales revenue growth rate would be about: %

A HIGH percentage sales revenue growth rate would be about: %

The HIGHEST percentage sales revenue growth rate would be about: %

Please assign a percentage likelihood to the [sales revenue growth rates](#) you entered.  
**(Value should sum to 100%)**

LOWEST: The likelihood of realizing a % change in sales level would be:	<input type="text" value="0"/> %
LOW: The likelihood of realizing a % change in sales level would be:	<input type="text" value="0"/> %
MIDDLE: The likelihood of realizing a % change in sales level would be:	<input type="text" value="0"/> %
HIGH: The likelihood of realizing a % change in sales level would be:	<input type="text" value="0"/> %
HIGHEST: The likelihood of realizing a % change in sales level would be:	<input type="text" value="0"/> %
<b>Total</b>	<input type="text" value="0"/> %

### Core employment questions

*Asked in all BLP Employment module since June 2021*

Currently, what is the [number of employees](#) (including part-time) at your business?

Looking back, 12 months ago, what was the [number of employees](#) (including part-time) at your business?

Looking ahead, 12 months from now, what number of employees (including part-time) would you assign to each of the following scenarios?

The LOWEST number of employees would be about:

A LOW number of employees would be about:

A MIDDLE number of employees would be about:

A HIGH number of employees would be about:

The HIGHEST number of employees would be about:

Please assign a percentage likelihood to the number of employees you entered above. **(Value should sum to 100%).**

LOWEST: The likelihood of employing about people 12 months from now would be:  %

LOW: The likelihood of employing about people 12 months from now would be:  %

MIDDLE: The likelihood of employing about people 12 months from now would be:  %

HIGH: The likelihood of employing about people 12 months from now would be:  %

HIGHEST: The likelihood of employing about people 12 months from now would be:  %

Total  %

## Appendix D: Screenshots of special questions

### Most pressing concerns

In the current quarter, which items have been the most pressing concerns for your company? (Choose up to 3)

Terms of financing and credit availability

Tax policy and regulation

Cost pressures (including materials, parts, input services, labour, etc.)

Supply chain disruptions

Uncertainty about financial/economic/political conditions

Demand/sales

Labour shortages

Reduction or end of pandemic related business support programs

Other

## Labour shortages

Are the labour shortages holding back sales at your firm?

Yes

No

I am not sure/I don't know

What measures are you taking in response to the labour shortages, if any? (Select all that apply)

Increasing recruiting efforts\*

Reducing minimum qualifications for positions

Larger than normal increases of wages

Expanding benefits, offering bonuses and/or stock options

Increasing (overtime) hours for regular and part-time staff

Relying more on machinery and equipment and/or automation\*

Contracting out work more frequently

Turning away sales and/or postponing product shipments

Other measures

Over what time frame do you expect these labour shortages to resolve?

- Within 3 months
- In 4 to 6 months
- In 7 to 9 months
- In 10 to 12 months
- In 13 to 24 months
- Beyond the next 24 months
- Too uncertain/don't know

Cost pressures

Have you recently been experiencing larger than normal increases in your costs?

- Yes, in the majority of my costs
- Yes, in some of my costs
- No
- Unsure



To what extent are these larger than normal cost increases being passed through to customers in the prices you charge?

Not passing through

Passing less than 25%

Passing 26-50%

Passing 51-75%

Passing 76-100%

Unsure

### Supply chain disruptions

Are these supply chain disruptions holding back sales and other business activities at your firm?

Yes

No

I am not sure/I don't know

Roughly, what % of sales in your estimates are lost because of the supply chain disruptions?

%

Over what time frame do you expect the supply chain disruptions to resolve?

Within 3 months

In 4 to 6 months

In 7 to 9 months

In 10 to 12 months

In 13 to 24 months

Beyond the next 24 months

Too uncertain/don't know

## Business sentiment

Compared to 1-2 months ago, and *excluding normal seasonal changes*, business conditions facing your firm:

Significantly improved

Somewhat improved

No change

Somewhat deteriorated

Significantly deteriorated

Please explain:

## Omicron

Have your expectations for future sales over the next 6 months been affected by the Omicron variant?

Yes

No

I am not sure/I don't know

How large of an impact, and in what direction, do you anticipate?

Significantly positive

Somewhat positive

Somewhat negative

Significantly negative

Given the positive impact of Omicron, roughly what percentage of sales over the next 6 months do you estimate will be gained?

%

Given the negative impact of Omicron, roughly what percentage of sales over the next 6 months do you estimate will be lost?

%

## Inflation

We would like to seek your views on inflation (a general increase in consumer prices) in Canada.

What do you expect the rate of inflation to be over the next 12 months?

There will be a deflation (a decrease in consumer prices)

The rate of inflation will be between 0% and 1%

The rate of inflation will be between 1% and 2%

The rate of inflation will be between 2% and 3%

The rate of inflation will be between 3% and 4%

The rate of inflation will be between 4% and 5%

The rate of inflation will be between 5% and 8%

The rate of inflation will be 8% or higher

Now we would like you to think about inflation further into the future. What do you expect the rate of annual inflation to be in about 2 years from now?

There will be a deflation (a decrease in consumer prices)

The rate of inflation will be between 0% and 1%

The rate of inflation will be between 1% and 2%

The rate of inflation will be between 2% and 3%

The rate of inflation will be between 3% and 4%

The rate of inflation will be between 4% and 5%

The rate of inflation will be between 5% and 8%

The rate of inflation will be 8% or higher

What do you expect the rate of annual inflation to be in about 5 years from now?

There will be a deflation (a decrease in consumer prices)

The rate of inflation will be between 0% and 1%

The rate of inflation will be between 1% and 2%

The rate of inflation will be between 2% and 3%

The rate of inflation will be between 3% and 4%

The rate of inflation will be between 4% and 5%

The rate of inflation will be between 5% and 8%

The rate of inflation will be 8% or higher

Please indicate whether you agree or disagree with the following statements. Your inflation expectations are causing you to:

	Answer	
	Agree	Disagree
Increase wages and salaries by more than usual	<input type="radio"/>	<input type="radio"/>
Improve bonuses and benefits for employees	<input type="radio"/>	<input type="radio"/>
Increase prices for our products and services more aggressively	<input type="radio"/>	<input type="radio"/>
Stock more inventory, parts, and materials to avoid future price increases for inputs	<input type="radio"/>	<input type="radio"/>
Reduce production in response to cost increases	<input type="radio"/>	<input type="radio"/>
Reduce capital expenditures	<input type="radio"/>	<input type="radio"/>
Reduce hiring	<input type="radio"/>	<input type="radio"/>
Borrow more from financial institutions or other sources	<input type="radio"/>	<input type="radio"/>

Please feel free to provide any additional information you feel may help us better understand your views on inflation and/or your business decisions in response to it.



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