Staff Analytical Note/Note analytique du personnel—2024-5

Last updated: March 28, 2024

Measuring household financial stress in Canada using consumer surveys

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DOI: https://doi.org/10.34989/san-2024-5 | **ISSN** 2369-9639

Acknowledgements

The views expressed in this note are those of the authors and do not necessarily reflect those of the Bank of Canada or its Governing Council.

1. Motivation and summary

In recent years, a combination of high inflation and high interest rates has put pressure on households' budgets.[1] Understanding how heavily this pressure weighs on consumers, and how they cope with these challenges, is important. It helps policy-makers implement the most effective actions to control inflation, while taking into account how monetary policy impacts the financial health of households. In this work, we use results from the Canadian Survey of Consumer Expectations (CSCE) to investigate the evolution and current level of financial stress among Canadian households since 2014. We compare these results with those from two other consumer surveys as well as sources of credit performance data. Then we discuss potential implications for the economy.

The CSCE is uniquely positioned to address these issues because it includes questions on demographics as well as households' finances, their confidence in both their financial situation and the wider economy, and their future financial decisions. [2] Our work complements the many tools the Bank of Canada uses to measure households' financial health, such as insolvencies and delinquency rates. In particular, the CSCE can signal financial distress earlier than official, published data on household credit performance. The survey can help us catch such signals before financial distress causes negative effects on the economy.

We find that:

- Our measure of perceived household financial stress is at a historically high level and seems to be unsustainable for about 10% of the population. In addition, perceived financial stress does not entirely translate into failure to meet financial obligations, as evidenced by household credit performance data that remain near levels recorded before the COVID-19 pandemic.
- Financially stressed households are more likely to be young, renting, new to Canada and low-income. About 8% of households live paycheque to paycheque, which makes them highly vulnerable in the event of a financial shock.
- The rising cost of living, higher interest rates and perceived job risk are key causes of financial stress. Although some mortgage holders—about 10%—could face financial challenges regarding upcoming renewals, their overall likelihood of missing a debt payment has not changed much in recent quarters despite the Bank's multiple rate increases. Renters seem to be the most vulnerable households because the recent period of high inflation and high interest rates might have burdened their finances more than other households.

[1] For more information about the high cost of inflation on households, see T. Macklem, "Ending the pain of high inflation" (speech delivered to the Saint John Region Chamber of Commerce, Saint John, New Brunswick, November 22, 2023).

[2] See the Bank's website for more information about the CSCE.

- The behaviour of the most financially vulnerable households has spillover impacts on the Canadian economy. These households cut spending more aggressively than other CSCE respondents, and mortgage holders heavily constrained by their debt payments report stronger intentions to sell their houses than other mortgage holders do.

2. Evolution of financial stress among Canadian households

2.1 Building a measure of financial stress using the Canadian Survey of Consumer Expectations

We define household financial stress as a state of perceived relative discomfort experienced by a household due to various financial challenges, including difficulty covering basic living expenses and paying bills on time, as well as anxiety about financial security. The typical causes of household financial stress include:

- insufficient household income
- high levels of debt
- insufficient savings
- unexpected expenses
- changes in economic circumstances

We identify four indicators in the CSCE that are linked to financial stress and asked in the survey since 2014:[3, 4]

- the share of respondents reporting their **financial situation has worsened** in the past 12 months, a measure of the perceived evolution of a household's financial situation over the previous year
- the share of respondents **expecting their financial situation to worsen** in the next 12 months, a measure of a household's confidence around their financial situation going forward
- the share of respondents reporting they have more than a 50% chance of **missing a debt payment** in the next 3 months, a measure of a household's perceived risk of failure to meet financial obligations in the short term

[3] The CSCE also asks consumers about their perceived access to credit. We excluded these questions from our measure of financial stress because respondents are asked about perceived access to credit for the general population rather than their personal situation.

[4] A list of the CSCE questions used to produce the results presented in this note can be found in **Appendix A**.

- the share of workers reporting they have more than a 50% chance of **losing their job** in the next 12 months, a measure of a worker's exposure to an adverse shock that could reduce their household income and, in turn, their capacity to pay bills and cover daily expenses

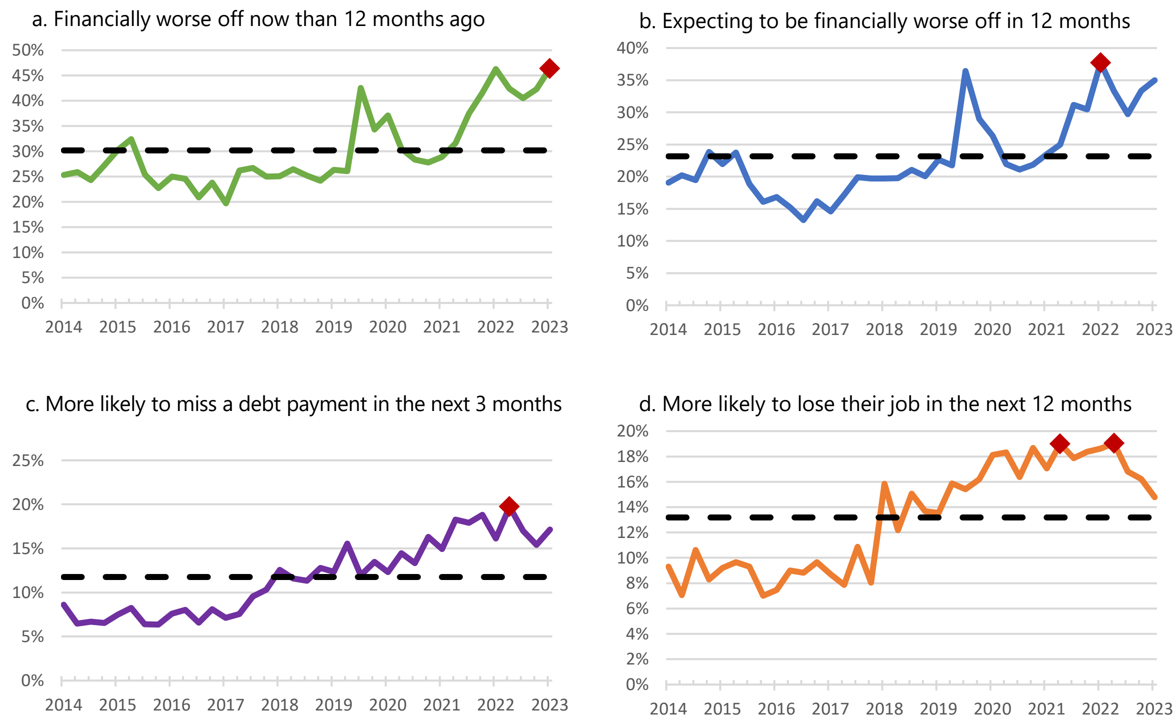
These four indicators are subjective measures of financial stress, meaning they are not directly observable and depend on respondents' understanding of the question and feelings at the time they were surveyed. Financial stress is a broader concept than financial distress, which is a more severe condition where a household does not have enough financial resources to meet its obligations. Still, the indicators reflect household confidence around their personal situation, and they could catch early signals of financial distress before it appears in household credit performance data. Hence, our indicators complement the many other tools the Bank uses to monitor households' financial health.

2.2 Household financial stress is at a historically high level

Overall, CSCE indicators of household financial stress have risen over recent quarters and, taken together, now stand at a historically high level. This rising and high level could be the result of the cumulative effects from the recent period of high inflation and increases in interest rates (**Chart 1**).[5]

[5] Although increases in interest rates and high inflation are key drivers of the four indicators of household financial stress, each indicator highlights a different dynamic that started, in some cases, before the current monetary policy cycle. Another key driver is consumers' perceptions of their job situations.

Chart 1: Households report an unusually high level of financial stress in recent quarters



Note: All panels represent shares of respondents. Red markers highlight survey highs. Dashed lines represent survey averages.
Source: Canadian Survey of Consumer Expectations Last observation: 2023Q4

A few results stand out:

- The shares of households reporting a deteriorating financial situation in the past year and for the coming year are at historically high levels (**Chart 1**, panels a and b). Both indicators have followed a similar trend. They climbed in the first months of the pandemic, then returned to the historical average before climbing again at the beginning of 2022 when inflation increased sharply and the Bank started raising its policy rate.[6]
- More consumers than normal report a greater than 50% chance of missing a debt payment in the short term (**Chart 1**, panel c). This indicator was low and stable from 2014 to 2017 and started to increase before the pandemic as monetary policy normalized. After remaining roughly stable during the COVID-19 crisis, it started to increase again in early 2021. Note that the indicator has trended downward over recent quarters but remains far above its historical average.

[6] These two questions ask about “financial situation,” which respondents can interpret in different ways. For example, they could answer based on changes in their income or the value of their assets, the perceived evolution of their purchasing power, or their overall confidence in the economy.

- Encouragingly, the share of workers reporting a greater than 50% chance of losing their job in the next year has fallen from its peak in 2022, easing closer to its historical average (**Chart 1**, panel d). This is a sign that workers remain relatively confident about their job situation.[7]

Taken together, these results suggest that households are feeling unusually low levels of financial security, and that this has been the case for a while. These low levels have implications for overall consumer confidence—financial security is a common input of confidence measures—and, in turn, for the real economy. Although no clear consensus appears in the literature, many papers find that consumer confidence affects key macroeconomic variables such as gross domestic product and consumption.[8]

2.3 Evidence from other consumer surveys and credit performance data

Other consumer surveys also find high and rising levels of financial stress…

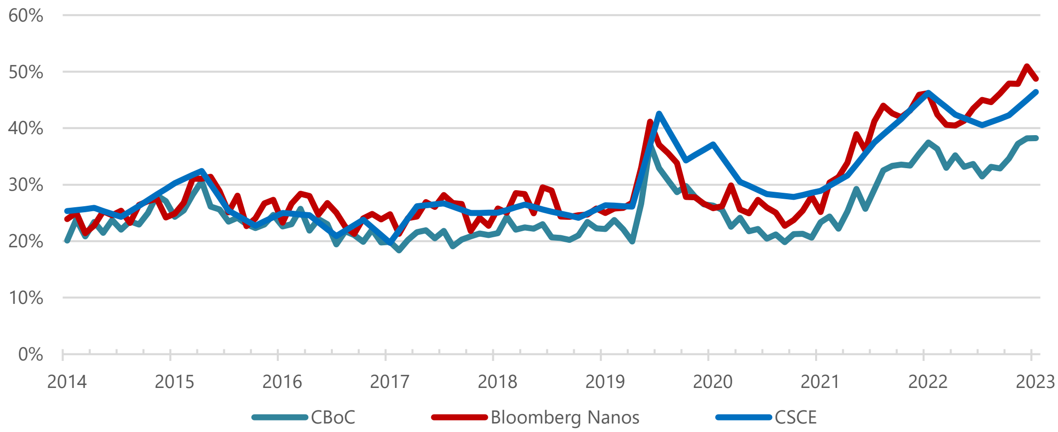
Other Canadian consumer surveys also ask about past changes in financial situation, namely the Bloomberg Nanos Canadian Confidence Index and the Conference Board of Canada Index of Consumer Confidence. In **Chart 2**, we compare data from the CSCE with results from these surveys and find similar results: the share of consumers reporting deteriorating finances in recent quarters has risen and now stands at or near survey highs.

[7] Although our indicator of perceived job risk is showing signs of confidence among workers, job market indicators from the CSCE (e.g., hours worked, likelihood to leave and find a job) have more recently pointed toward an easing of the labour market. For more details, see Bank of Canada, *Canadian Survey of Consumer Expectations—Fourth Quarter of 2023* (January 2024).

[8] For examples, see H. Khan, J.-F. Rouillard and S. Upadhayaya, "Consumer Confidence and Household Investment," Carleton Economics Working Papers No. 19-06 (September 5, 2019) ; S. Leduc and K. Still, "Expectations and Economic Fluctuations: An Analysis Using Survey Data," Review of Economics and Statistics 95, no. 4 (October 2013): 1352–1367; and B. Desroches and M.-A. Gosselin, "The Usefulness of Consumer Confidence Indexes in the United States," Bank of Canada Staff Working Paper No. 2002-22 (August 2002).

Chart 2: Respondents in other surveys also report deteriorating financial situations

Share of respondents reporting being worse off financially



Note: The questions asked in each survey are as follows. In the Conference Board of Canada (CBoC) Index of Consumer Confidence: "Considering everything, would you say that your family is better off or worse off financially than six months ago?" In the Bloomberg Nanos Canadian Confidence Index: "Thinking of your personal finances, are you better off, worse off or has there been no change over the past year?" In the Canadian Survey of Consumer Expectations (CSCE): "Do you think you (and any family living with you) are financially better or worse off these days than you were 12 months ago?"

Sources: Conference Board of Canada Index of Consumer Confidence, Bloomberg Nanos Canadian Confidence Index and Canadian Survey of Consumer Expectations

Last observations: CBoC and Bloomberg Nanos, November 2023; CSCE 2023Q4

…but perceived financial stress does not entirely translate into real financial distress

Perceived financial stress as we define it is different than financial distress, even though these two concepts are closely related. Not all financially stressed households experience financial distress. Therefore, our indicators of perceived financial stress could rise while financial distress remains the same. A household's move from perceived financial stress to real distress relies on many factors, including the effects of macroeconomic policies, self-insurance behaviours and unexpected events (e.g., job losses, major car repairs).

Although financial distress has greater risk implications for the Canadian financial system, monitoring perceived financial stress is important because high levels of it can weigh on consumer spending. Also, continuously rising or permanently high levels of perceived financial stress could be a leading indicator of more financial distress to come.

In **Chart 3**, we use credit performance data to show two measures that are closer to our concept of financial distress: [9]

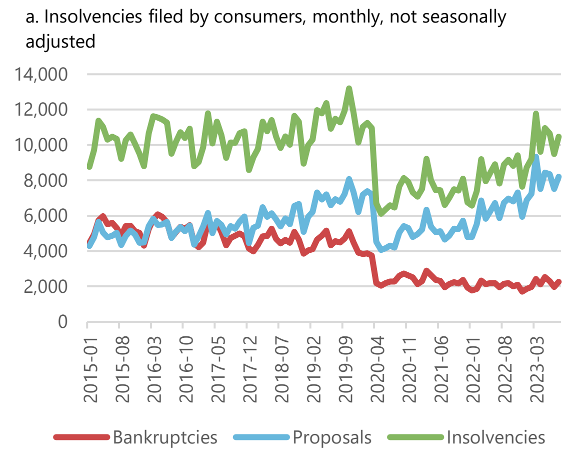
- the number of insolvencies filed by consumers
- the share of indebted households behind on payments for different types of products

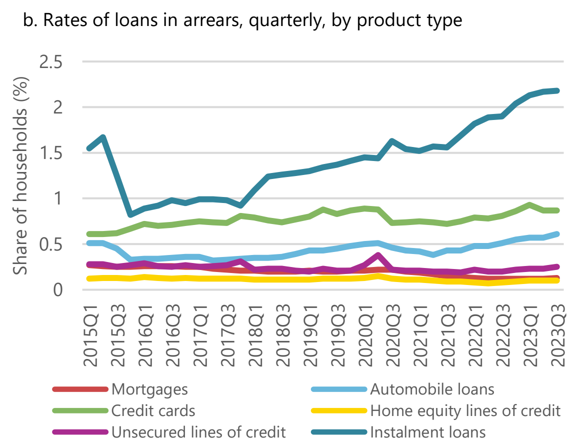
All but one of the four credit performance measures suggest that financial distress remains near pre-pandemic levels. The exception is the share of households with instalment loans in arrears, which has been rising since 2008, similar to the CSCE indicator of risks of missing a

[9] The Bank's website has more details on these and other indicators of financial vulnerabilities that the Bank tracks.

debt payment. Interestingly, the share of households with mortgages in arrears has remained low and roughly unchanged since 2015 despite recent rate increases. Taken together, these results offer a somewhat less pessimistic picture about household financial health than our four indicators of perceived financial stress. The Bank highlighted a similar finding in the 2023 *Financial System Review*, noting that most households were proving resilient to increases in debt-servicing costs despite some early signs of emerging financial stress.[10]

Chart 3: Credit performance data suggest a less pessimistic picture of household financial health than our indicators do





Source: Innovation, Science and Economic Development Canada

Sources: TransUnion and Bank of Canada calculations

Note: *Insolvencies* in panel a are the sum of bankruptcies and proposals. In panel b, households with loans in arrears are defined as those that are late on their debt payment obligations by 90 days or more. To protect the privacy of Canadians, TransUnion did not provide any personal information to the Bank. The TransUnion dataset was anonymized, meaning it does not include information that identifies individual Canadians, such as names, social insurance numbers or addresses.

Last observations: panel a, August 2023; panel b, 2023Q3

3. A portrait of financially stressed households

Younger households, low-income earners, renters and newcomers are more likely than other groups to be financially stressed

In this section, we look more closely into the demographic characteristics of financially stressed households as measured by our four indicators presented in Section 2.1. **Chart 4** shows, for a given demographic characteristic and financial stress indicator, the difference in the share of a demographic sub-group reporting that financial stress indicator compared with the share not reporting that indicator.

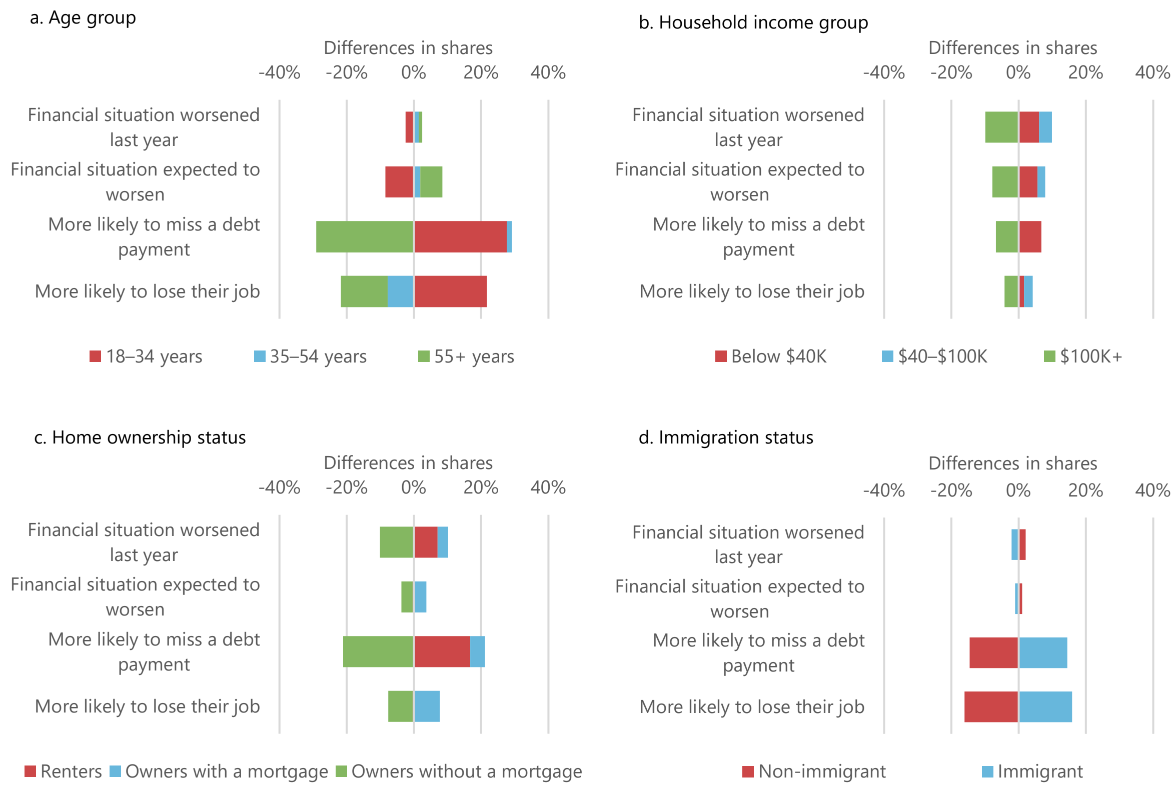
[10] For more details, see Bank of Canada, *Financial System Review—2023* (May 18, 2023).

We find that:

- **Young people** are more likely than other groups to both miss a debt payment and lose their job. These results are intuitive because young people tend to lack job tenure and job stability. They are also less likely to have accumulated enough wealth to insure themselves against missing a debt payment. Interestingly, age does not appear to be a key driver of the two indicators around deteriorating financial situation.
- **Low-income households** are more likely than other groups to be financially stressed, but the extent of this overrepresentation is relatively small compared with other demographic variables.
- **Renters** show more acute financial stress, while homeowners without a mortgage are the least financially stressed. The largest differences come from indicators of risk of missing a debt payment and past deterioration of their financial situation. Renters with high risks of default must be holding non-mortgage debt and hence lack the option to sell their home if their financial burden becomes unsustainable. This result is concerning for renters because they might need to further borrow to make payments on time. But it is also concerning for lenders because they might incur losses on their balance sheets if renters fail to make payments. The rising stress among renters may be related to high inflation, particularly for rent increases since 2022.
- **Immigrants**, who include non-permanent residents and newcomers, are much more likely than others to miss a debt payment or to lose their job.[11] This could be due to a range of reasons, including immigrants' weaker attachment to the labour market and lower accumulated wealth.

[11] Immigrants are defined as Canadian citizens by naturalization, permanent residents or non-permanent residents. Among this group, newcomers are defined as non-permanent residents who have arrived in Canada since 2017.

Chart 4: Financially stressed households are more likely to be young, renting, new to Canada and low-income



Note: Data include respondents from all four quarters of 2023. *NPR* is non-permanent resident.

Source: Canadian Survey of Consumer Expectations   Last observation: 2023Q4

Not all financially stressed households are living paycheque to paycheque

While many Canadians are experiencing rising financial stress, not all are currently facing a perceived level of stress high enough to increase their vulnerability to financial distress. However, households living paycheque to paycheque are those most vulnerable to financial distress in the event of a budgetary shock (e.g., loss of income or an unexpected expense) because they lack savings or access to credit to buffer against the shock.

We assess how many households live paycheque to paycheque using these three characteristics derived from questions recently introduced in the CSCE:

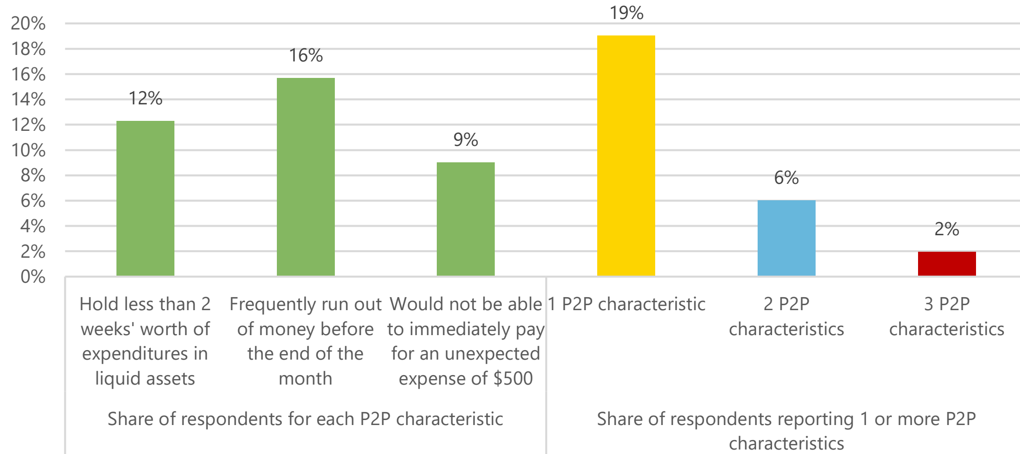
- holding less than two weeks' worth of expenditures in liquid assets
- frequently running out of money before the end of the month
- not being able to immediately pay for an unexpected expense of $500

At the individual characteristic level, we find that between 9% and 16% of consumers report a paycheque-to-paycheque characteristic (**Chart 5**). Assuming that such a household would report more than one characteristic, we find that 8% of all respondents could be vulnerable to financial distress. This result is in line with Statistics Canada's 2019 Survey of Financial

Security, which suggests that around 6% of the population was living paycheque to paycheque and holding very low levels of liquid assets. Other survey indicators monitored by the Bank, including Ipsos's Canadian Financial Monitor Survey, suggest that the current share of paycheque-to-paycheque households remains below pre-pandemic levels.

Chart 5: More than one-quarter of consumers report at least one characteristic of paycheque-to-paycheque households

Share of consumers reporting paycheque-to-paycheque characteristics in the CSCE sample



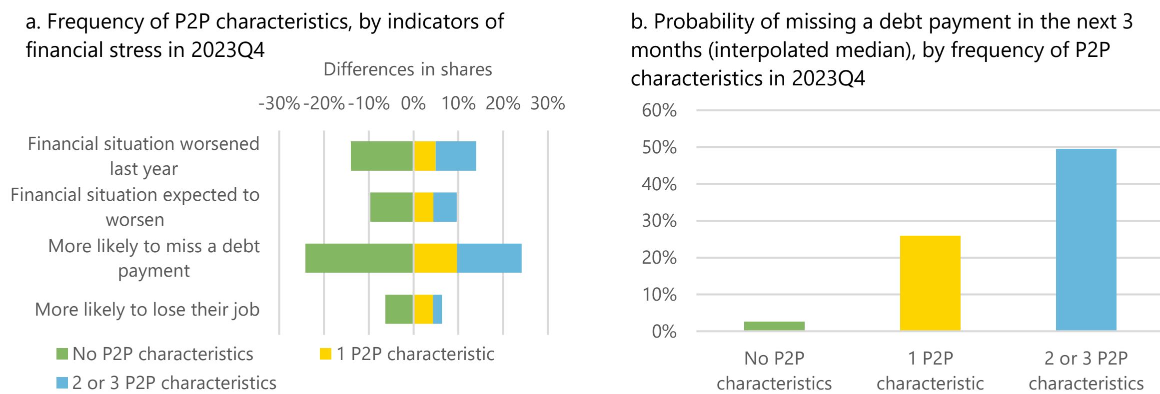
Note: Data include respondents from the fourth quarter of 2023. CSCE is the Canadian Survey of Consumer Expectations. *P2P* is paycheque-to-paycheque.

Source: Canadian Survey of Consumer Expectations Last observation: 2023Q4

As we would expect, those reporting paycheque-to-paycheque characteristics are more likely to report more acute financial stress than other households, notably through much higher probabilities of missing a debt payment (**Chart 6**). These results are supported by an econometric analysis applying a logistic regression model to investigate the factors influencing financial stress (see **Appendix B**).[12] Similarly, these households share the same characteristics as those most financially stressed: they are more likely to have low income, be renters and be young.

[12] In this model, the dependent variable represents the binary outcome of whether a consumer is flagged as financially stressed for a given indicator (1) or not (0). The independent variables include demographic factors such as age, income and home ownership status, as well as the number of paycheque-to-paycheque characteristics. Results show that paycheque-to-paycheque characteristics were one of the strongest predictors of perceived financial stress among consumers in the fourth quarter of 2023. Results are provided in **Appendix B**.

Chart 6: Households living paycheque-to-paycheque score higher than others on financial stress indicators



Note: *P2P* is paycheque-to-paycheque. Data include respondents from the fourth quarter of 2023.
Source: Canadian Survey of Consumer Expectations Last observation: 2023Q4

4. Exploring the drivers of financial stress

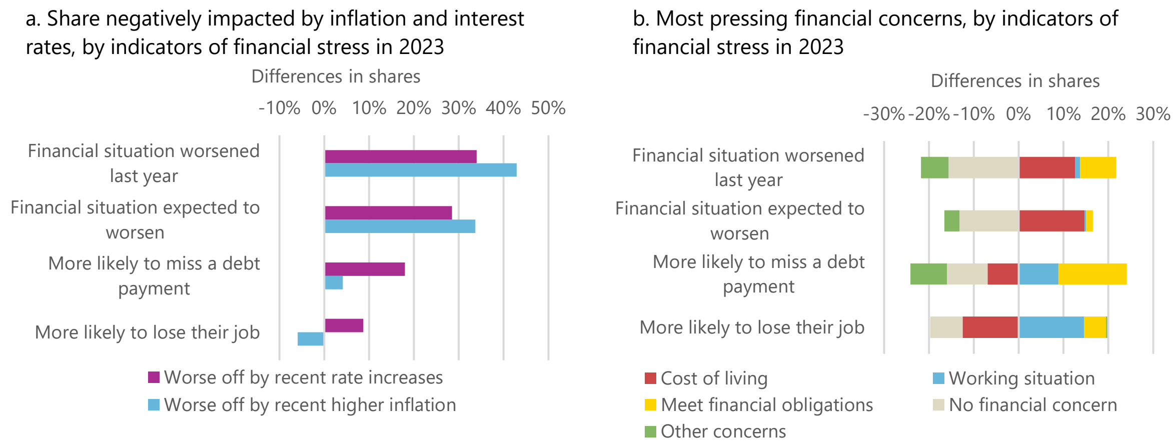
The cost of living, elevated interest rates and perceived job risk are driving financial stress

Financially stressed households are much more likely than others to report being negatively affected by high inflation and recent rate increases (**Chart 7**, panel a). While both factors are important drivers of deteriorating financial situations, only interest rates appear to be driving risks of missing a debt payment and losing a job. Similarly, financially stressed households are more likely than others to report the cost of living, their working situation and their ability to meet financial obligations as their most pressing financial concern (**Chart 7**, panel b).

Taken together, these results confirm that economic conditions in 2023, notably elevated inflation and increases in interest rates, weighed heavily on household finances. As a result, this pressure on households' budgets may have helped cause financial stress over recent quarters. In addition, a perceived high risk to jobs during the pandemic might have fueled financial stress to some extent, as evidenced by the fact that the respondents most likely to miss a debt payment have, as a key driver, concerns about their working situation (**Chart 7**, panel b). This result is consistent with the literature that shows consumer surveys in Canada and the United States find a strong correlation between expected delinquency and job separation risks.[13]

[13] See T. Wang, "Perceived Delinquency Risks and Outcomes: A Tale of Two Countries," Bank of Canada Staff Analytical Note (forthcoming).

Chart 7: Cost of living, interest rates and the risk of losing a job are driving financial stress



Note: Panel a displays the shares of consumers that have become worse off because of recent rate increases and elevated inflation. Panel b displays answers when respondents were asked for their most pressing concern when they think about their financial situation. Data in panel a include respondents from all quarters of 2023. Data in panel b includes all quarters of 2023 except the first quarter.

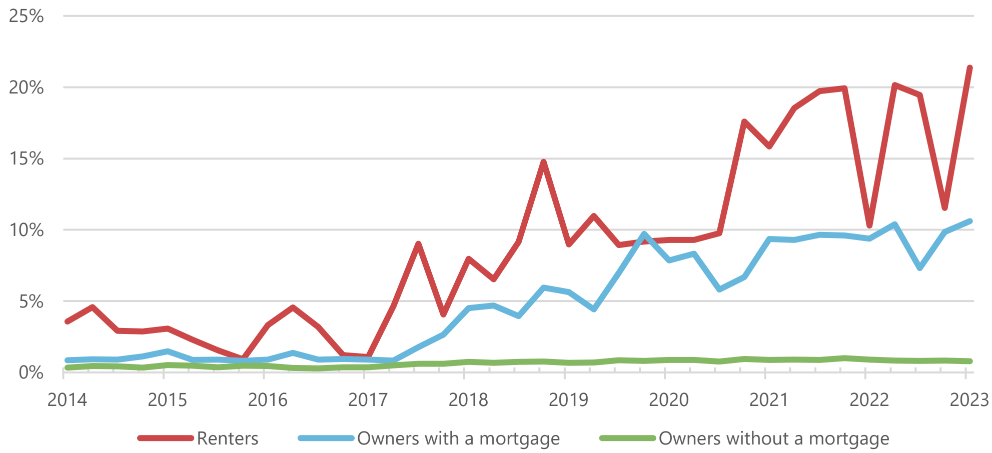
Source: Canadian Survey of Consumer Expectations Last observation: 2023Q4

The burden of inflation on renters is driving the increased probability of missing a debt payment

As discussed, renters score higher on our financial stress indicators than homeowners with and without mortgages, especially on the probability of missing a debt payment. In fact, this probability increased among renters in 2021 and remained high (although volatile), while it stayed roughly unchanged for mortgage holders over that period (**Chart 8**). This stability in mortgage holders' probability of missing a debt payment despite increases to the Bank's policy rate is in line with other findings, such as the low and stable share of households with mortgages in arrears (**Chart 3**, panel b). Still, homeowners with mortgages report higher probabilities of default than homeowners without a mortgage.

Chart 8: Renters are driving recent movements in the consumers' perceived probability of missing a debt payment

Probability of defaulting on a debt payment in the next 3 months (interpolated median), by home ownership status

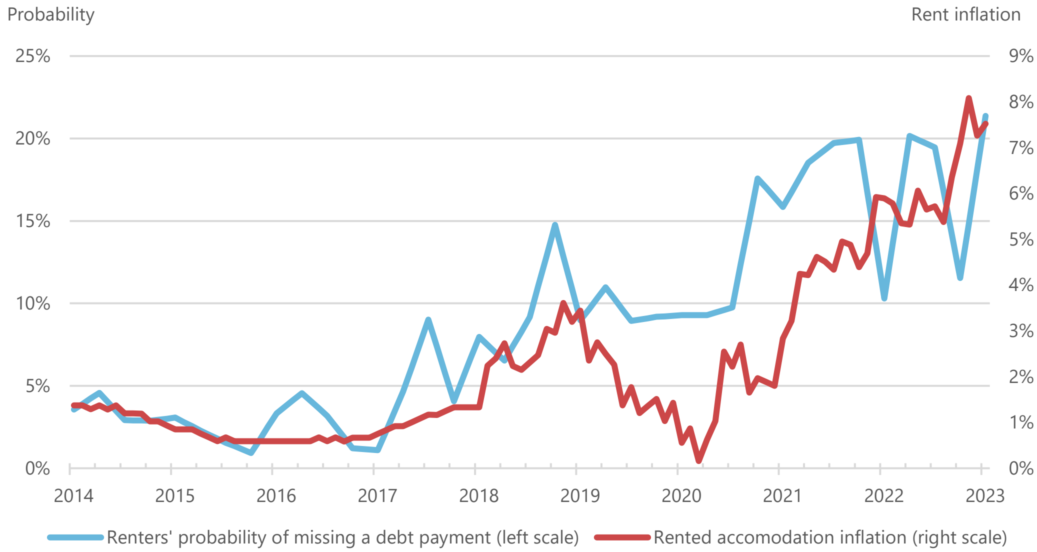


Source: Canadian Survey of Consumer Expectations

Last observation: 2023Q4

Since they do not have mortgages, renters typically have less debt—in terms of both value and as a share of income—than mortgage holders and hence have less exposure to interest rates. Therefore, the burden of high inflation has likely driven recent movements in the probability of households missing a debt payment. This is particularly the case for renters. Rent usually makes up a large share of a renter’s budget, and rent inflation has increased significantly in recent months (**Chart 9**). Another explanation for this dynamic among renters could be the nature and size of the debt they hold. Because their debt is often mainly comprised of credit card debt, car loans and other unsecured debt, renters are likely more willing than homeowners to miss a few debt payments, knowing that the consequences won't include losing their house.

Chart 9: **The likelihood of a renter missing a debt payment has increased with rent prices**



Sources: Statistics Canada and the Canadian Survey of Consumer Expectations
Last observations: Statistics Canada, December 2023; CSCE, 2023Q4

Some mortgage holders could face financial challenges at upcoming renewals

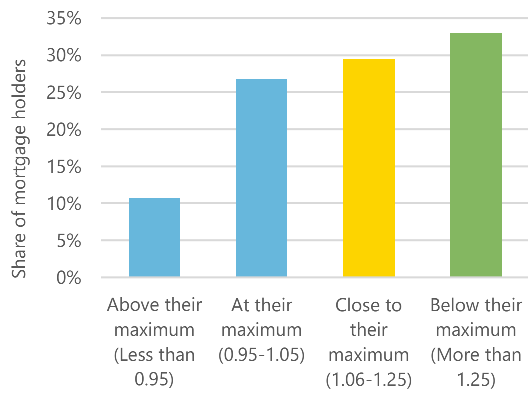
Based on our four indicators of financial stress, homeowners report a lower level of perceived financial stress than renters. But homeowners with mortgages are doing worse than those without a mortgage because of their increased exposure to changes in interest rates.

To assess how burdensome mortgage payments are on consumers' budgets, the CSCE now asks mortgage holders how much they are currently paying for their mortgage and what would be the "maximum payment they feel confident they could sustain." We use these data for all mortgage holders to identify the most vulnerable households, which are defined as those having a high ratio of their maximum affordable payment to their current payment.

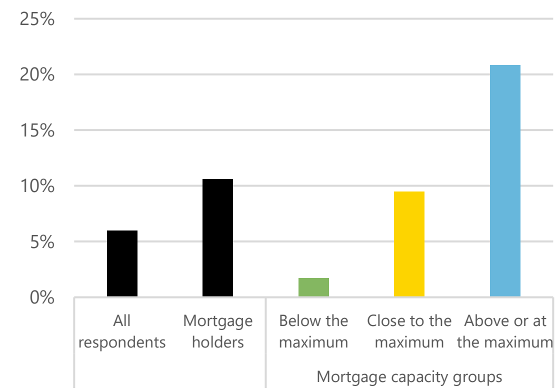
We find that more than one-third of mortgage holders are constrained by their mortgage payments, meaning they are paying an amount that is at or above their reported maximum affordable payment (**Chart 10**, panel a). These results suggest that a material share of mortgage holders have little to no room in their budgets to absorb higher mortgage payments at renewal, meaning they are at greater risk of defaulting on their debt payment. In fact, constrained mortgage holders report a probability of defaulting that is almost double that of all mortgage holders (**Chart 10**, panel b).

Chart 10: Some mortgage holders are heavily constrained by their mortgage payments

a. Frequency of mortgage payment capacity groups



b. Probability of missing a debt payment (interpolated median).



Note: Mortgage payment capacity groups are based on the ratio of the maximum affordable mortgage payment over the current mortgage payment. Data include respondents from the fourth quarter of 2023.

Source: Canadian Survey of Consumer Expectations Last observation: 2023Q4

Mortgage holders with variable-rate mortgages and variable payments have already felt the effects of rate increases on their mortgage payments, with their payments gradually increasing in line with the policy rate. This is not the case for those with fixed payments, which represents around 85% of all mortgages holders who responded to the CSCE in the fourth quarter of 2023.[14] Fixed-payment mortgage holders will experience a material shock when they renew their mortgages, which for some homeowners may be large enough to affect their ability to make higher payments.

To identify the most vulnerable households among the mortgage-holding group and assess the level of risk for the economy, we propose that those most at risk of default are mortgage holders who report:

- currently paying an amount equal to or above the maximum mortgage payment they think they can afford
- not being confident about their ability to make higher payments at renewal

We find that 11% of mortgage holders in the fourth quarter of 2023 report both risk factors (**Chart 11**).[15] These consumers are more vulnerable than others because they are already struggling with high mortgage payments and expect things to worsen after renewal. In addition, we find that 5% of mortgage holders are not confident about their ability to afford payments after renewal despite currently paying slightly less than their maximum affordable

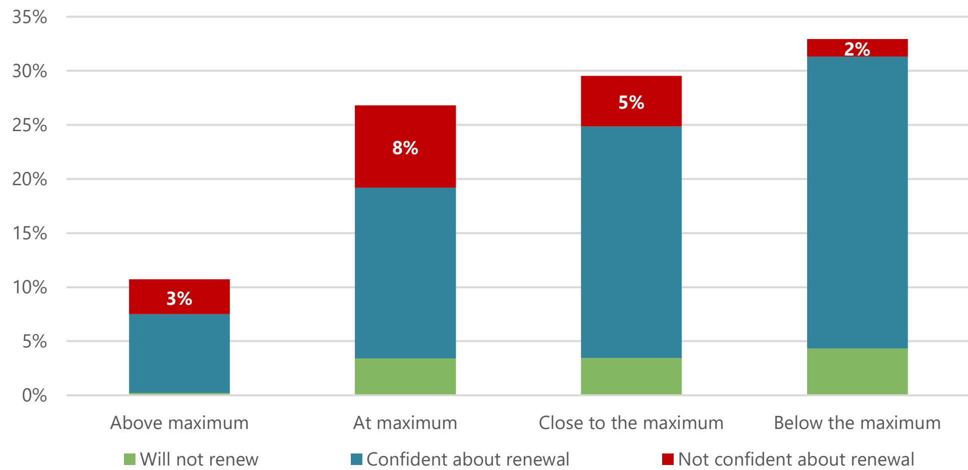
[14] This share is in line with official statistics. According to the 2023 *Financial System Review*, 9% of all mortgages in Canada in February 2023 were variable-rate mortgages with variable payments.

[15] This number is the sum of the red bars for the *Above maximum* (3%) and *At maximum* (8%) mortgage payment capacity groups of **Chart 11**.

payment. They are very likely to become heavily constrained homeowners once they renew, thus increasing risks for the overall economy.

Chart 11: Between 3% and 11% of all mortgage holders are at higher risk of default

Share of all mortgage holders by confidence in ability to pay at renewal and mortgage payment capacity



Note: Data include respondents from the fourth quarter of 2023.
Source: Canadian Survey of Consumer Expectations Last observation: 2023Q4

5. Financial stress and the real economy

So far we've discussed the rising level of financial stress among Canadian households and identified two groups of consumers that are particularly vulnerable to a sudden financial shock. These groups are:

- consumers reporting paycheque-to-paycheque characteristics
- mortgage holders with little to no room in their budgets to cope with higher mortgage payments at renewal

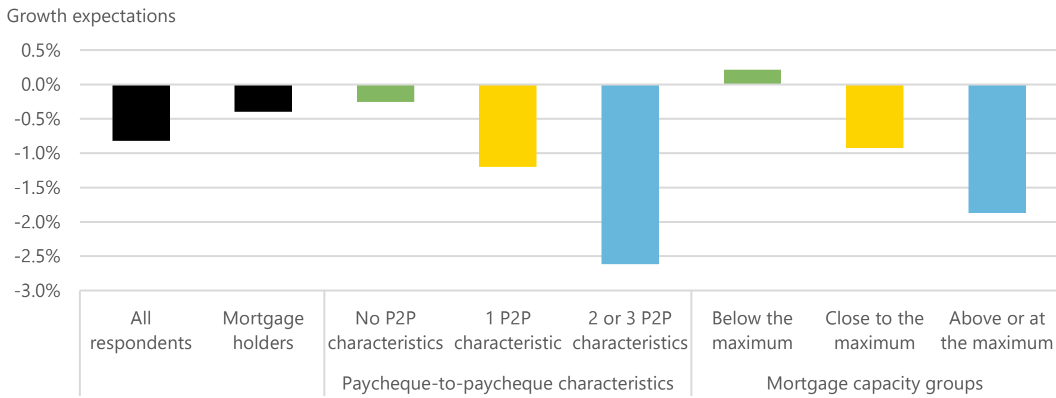
In this section we discuss how their perceived level of financial stress might impact their spending decisions and, in the case of mortgage holders, the probability of selling their home. This helps us assess how high levels of financial stress might have spillover effects on the real economy.

Chart 12 shows expectations for real spending growth that consumers reported in the fourth quarter of 2023. While all reported intentions to cut real spending overall, the most vulnerable consumers were planning much larger cuts. In fact, consumers reporting more than two paycheque-to-paycheque characteristics expected to make real spending cuts that were more than three times larger than those of all respondents. And constrained mortgage holders reported planning spending cuts that were nearly five times larger than those of all mortgage holders.

These results suggest that acute financial stress is weighing on consumers' spending decisions. Therefore, monitoring financial stress is essential to monetary policy because vulnerable households affect the economy through various channels, including their consumption plans. For example, a worsening of their financial situation or an increasing share of vulnerable households could lead to larger and more widespread spending cuts among consumers. This in turn would further weaken Canadian economic activity through weaker domestic demand.

Chart 12: Those most vulnerable households plan the largest spending cuts

Expectations for real spending growth, interpolated median



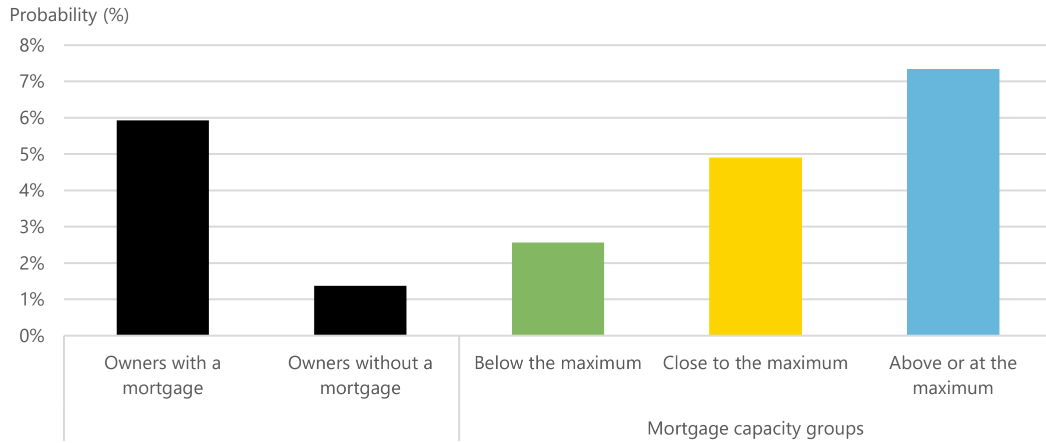
Note: The formula to calculate real spending growth expectations is nominal spending growth expectations minus one-year ahead inflation expectations. *P2P* is paycheque-to-paycheque. Data include respondents from the fourth quarter of 2023.

Source: Canadian Survey of Consumer Expectations
Last observation: 2023Q4

Further, constrained mortgage holders report slightly higher probabilities of selling their homes than other homeowners (**Chart 13**). This result is intuitive because those with little room left in their budgets would be more likely to consider selling their houses to ease the strain on their finances. However, the probability of selling remains relatively low, which confirms that current levels of mortgage payments remain bearable for most mortgage holders.

Chart 13: Constrained mortgage holders are more likely than others to sell their houses in the next 12 months

Probability to put primary residence on the market for sale over the next 12 months, interpolated median



Note: Data include respondents from the fourth quarter of 2023.

Source: Canadian Survey of Consumer Expectations

Last observation: 2023Q4

6. Conclusion

In this note, we use results from the CSCE, as well as other consumer surveys and credit performance data, to measure household financial stress from 2014 to 2023. We find that household financial stress was at historically high levels in 2023, but financial vulnerability seems to be concentrated among a small share of the population, specifically those living paycheque-to-paycheque and mortgage holders who are heavily constrained by their debt payments. These vulnerable households report weaker consumption plans and stronger intentions to sell their houses than other households.

Overall, financial stress remains manageable for most households, including mortgage holders who are typically affected more by changes in interest rates. The four indicators developed and studied in this note can help better identify and understand vulnerable groups, notably young and low-income households, as well as renters and newcomers. Going forward, this work will help the Bank's ongoing monitoring of household financial health, including early signs of perceived financial stress that could indicate a slide by some groups toward financial distress, particularly mortgage holders as more of them renew their mortgages.

Appendix A: Questions from the Canadian Survey of Consumer Expectations

Topic	Question
Perceived financial stress	Do you think you (and any family living with you) are financially better or worse off these days than you were 12 months ago? • Much worse off • Somewhat worse off • About the same • Somewhat better off • Much better off And looking ahead, do you think you (and any family living with you) will be financially better or worse off 12 months from now than you are these days? • Much worse off • Somewhat worse off • About the same • Somewhat better off • Much better off What do you think is the percent chance that, over the next 3 months, you will NOT be able to make one of your debt payments (that is, the minimum required payments on credit and retail cards, auto loans, student loans, mortgages, or any other debt you may have)? What do you think is the percent chance that you will leave your [main/current] job voluntarily during the next 12 months?
Other labour market indicators	What do you think is the percent chance that you will leave your [main/current] job voluntarily during the next 12 months? Suppose you were to lose your job this month. What do you think is the percent chance that within the following three months, you will find a job that you will accept, considering the pay and type of work? You have answered that you are looking for a job. How long have you been looking for a job?

Paycheque-to-paycheque characteristics	Think about the money in your banking and investment accounts that can be withdrawn quickly and easily.

In your opinion, how long would you be able to cover your current level of expenditures (including debt payments, bill payments and spending on goods and services excluding unusual purchases) using only the money in these accounts?

- Less than 2 weeks
- Between 2 weeks and a month
- 1-3 months
- 4-6 months
- 7-12 months
- More than 12 months
- I don't know / prefer not to answer

How often do you run out of money to cover your current level of expenditures before the end of the month?

- Rarely or never
- Occasionally.
- Frequently, almost every month.
- I don't know / prefer not to answer

Suppose you have an emergency expense that costs $500 (e.g., car repair, broken tooth). Based on your current financial situation, which option would you most likely choose to cover most of the cost? (Please select only one option)

- Pay for it immediately using money I can quickly and easily withdraw from my bank account(s)
- Use a credit card and pay the expense off in full when it appears on the next statement
- Use a credit card and pay the expense off over time
- Take out a personal loan or a line of credit from a bank or financial institution
- Borrow money from family or friends
- Sell something

	• Do nothing because I would not be able to pay for the expense
Impact of inflation and interest rates	Were you financially impacted by [recent increases in interest rates by the Bank of Canada/recent higher inflation]? • Yes • No • Don’t know Did you become better or worse off as a result of [recent interest rates increases/higher inflation]? (Choose one) • Much worse off • Somewhat worse off • About the same • Somewhat better off • Much better off
Most pressing financial concern	Thinking about your financial situation, are you concerned about any of these factors? (Select all that apply) • My cost of living • My work situation • Paying my bills and/or making debt payments on time • The value of my house • The value of my financial assets (e.g., stocks, pensions, bonds) • The safety of my deposits at financial institutions • Others (specify) • None • Don’t know [If they selected more than one factor] Of the factors you selected, which one are you most concerned about?
Current and maximum affordable mortgage payments	Do you make regular mortgage payments on your primary residence? • Yes • No • I don’t know / Prefer not to answer

	[If Yes] How often are these payments made? • Monthly • Every two weeks • Weekly • Twice a month • Other (please specify) • I Don’t know / Prefer not to answer How much is your regular mortgage payment? Based on your current financial situation, what is the maximum regular mortgage payment you feel confident you could sustain?
Confidence about ability to pay at renewal	Regarding the renewal of your mortgage, which of these statements apply to you? • I renewed my mortgage in the past 12 months • I plan to renew my mortgage within the next 12 months • I plan to renew my mortgage over the next 12 to 24 months • I plan to renew my mortgage more than 24 months from now • I will not renew my mortgage (e.g., it will be paid off, I will rent) • Not sure/I don’t know [If they renew, or are aware of their renewal] When you renew, do you expect your mortgage payments to: • Increase a lot • Increase a little • Remain the same • Decrease a little • Decrease a lot • Not sure/I don’t know [If they expect payments to increase at renewal] How confident are you about your ability to make your mortgage payments once you renew your mortgage? • Very confident • Somewhat confident

	• Somewhat not confident • Not at all confident • I don’t know
Real spending growth expectations	Over the next 12 months, what do you expect will happen to the total spending of all members of your household (including you)? Over the next 12 months, I expect my total household spending to… • increase by 0% or more • decrease by 0% or more By about what percent do you expect your total household spending to [increase/decrease]? Please give your best guess. Over the next 12 months, do you think that there will be inflation or deflation? (Note: deflation is the opposite of inflation) • Inflation • Deflation (the opposite of inflation) What do you expect the rate of [inflation/deflation] to be over the next 12 months? Please give your best guess.
Probability to sell primary residence	What do you think is the percent chance that, over the next 12 months, you will put your primary residence on the market for sale?

Appendix B: Logistic regression results

	Financial stress indicator			
	(1)	(2)	(3)	(4)
	Financial situation worsened in the last year	Financial situation expected to worsen in the coming year	More likely to miss a debt payment	More likely to lose their job
Age	1.009***	1.014***	.966***	.959***
	(.003)	(.003)	(.004)	(.008)
Male	.748***	.829*	.944	1.31
	(.071)	(.082)	(.124)	(.234)
Income	.977	.959*	.947*	.919*
	(.022)	(.022)	(.03)	(.044)
Education level	.999	1.005	.938*	.996
	(.027)	(.028)	(.035)	(.053)
Renter	1.565***	1.052	1.272	1.015
	(.199)	(.139)	(.237)	(.27)
Has a mortgage	1.859***	1.535***	1.325	1.13
	(.23)	(.194)	(.247)	(.286)
Immigrant	.885	.94	1.914***	1.9***
	(.098)	(.108)	(.277)	(.357)
Paycheque-to-paycheque characteristics	1.83***	1.53***	2.036***	1.152
	(.15)	(.122)	(.187)	(.165)
Constant	.423***	.252***	.818	.794
	(.109)	(.068)	(.287)	(.416)
Observations	1970	1970	1969	1105
Pseudo R^2	.041	.024	.132	.064

Note: Standard errors are in parentheses. *Male* is a dummy variable, where 1 = male, and 0 = female. *Immigrant* is defined as Canadian citizens by naturalization, permanent residents or non-permanent residents.

**** p<.01, ** p<.05, * p<.1*