



# Financial System Review—2020

The impact of COVID-19 on the Canadian financial system

Browse [previous versions](#) of the *Financial System Review*.

## Summary

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COVID-19 is an unprecedented shock for the Canadian economy. Households, businesses and governments need a well-functioning financial system to manage the effects of the pandemic and support a robust recovery. In this *Financial System Review*, we identify the effects on financial stability and explain how recent actions by the Bank of Canada and other policy-makers help Canadians through a very challenging time.

## Uncertainty has led to widespread financial stress

COVID-19 is a severe health threat, and the necessary measures taken to contain its spread have cut economic activity. Canada is also grappling with the plunge in global oil prices, which hit while many businesses in the energy sector were still recovering from the 2014–16 oil price shock.

Early on, uncertainty about just how bad things could get created shock waves in financial markets, leading to a widespread flight to cash and difficulty selling assets. Policy actions are working to:

- restore market functioning
- ensure that financial institutions have adequate liquidity
- give Canadian households and businesses access to the credit they need

## Putting a floor under the economy

Since the onset of the pandemic, the Bank has established and expanded a range of facilities and purchase programs to address problems with market functioning and confidence. They are showing signs of succeeding:

- Access to liquidity has greatly improved in key financial markets that had been showing signs of significant stress.
- Many of the programs are now being used less than they were at inception.

### **Weathering the effects of containment measures**

COVID-19 has hit many households and businesses hard, especially those that are highly indebted or have low cash buffers. Strong and targeted policy responses by governments, regulators and the Bank are supporting the Canadian financial system. During this period, emergency measures that provide basic incomes to households and help businesses access credit are crucial.

For its part, the Bank has taken action by:

- lowering the policy rate to 0.25 percent
- supporting the flow of credit to households and businesses
- strengthening the transmission of monetary policy so that lower policy rates can be passed through to borrowers

We will continue to assess the impacts of these measures and can adjust the scale of these programs as market conditions change.



Our goal in the short-term is to help Canadian households and businesses bridge the crisis period. Our longer-term goal is to provide a strong foundation for a recovery in jobs and growth.

*Stephen S. Poloz, Governor*



**Watch Governor Poloz's opening statement and press conference.**

### **Policies are helping the financial system absorb the shock**

The financial system provides the credit, liquidity, and payment and settlement services necessary to address the economic impacts of COVID-19 and facilitate the recovery. Canada's key financial institutions are strong enough to deal with these challenging conditions, including operational disruptions.

Canada's six largest banks have strong capital and liquidity buffers, diversified assets and the protection of a robust mortgage insurance system. Bank staff analyzed two scenarios. The first shows that an aggressive policy response has helped put the banks in a good position to manage the consequences of the shock. The second shows that without these policies, banks would be faring much worse, with important negative effects on the availability of credit to households and businesses.

Many paths to the recovery are possible, as illustrated in the April *Monetary Policy Report*. Policy support will need to be flexible and adapt as the situation evolves.



We entered this global health crisis with a strong economy and resilient financial system. This will support the recovery. But we know that debt levels are going to rise, so the right combination of economic policies will be important too.

*Stephen S. Poloz, Governor*

**The *Financial System Review* is a product of the Governing Council of the Bank of Canada: Stephen S. Poloz, Carolyn A. Wilkins, Timothy Lane, Lawrence Schembri, Paul Beaudry and Toni Gravelle.**

## Introduction

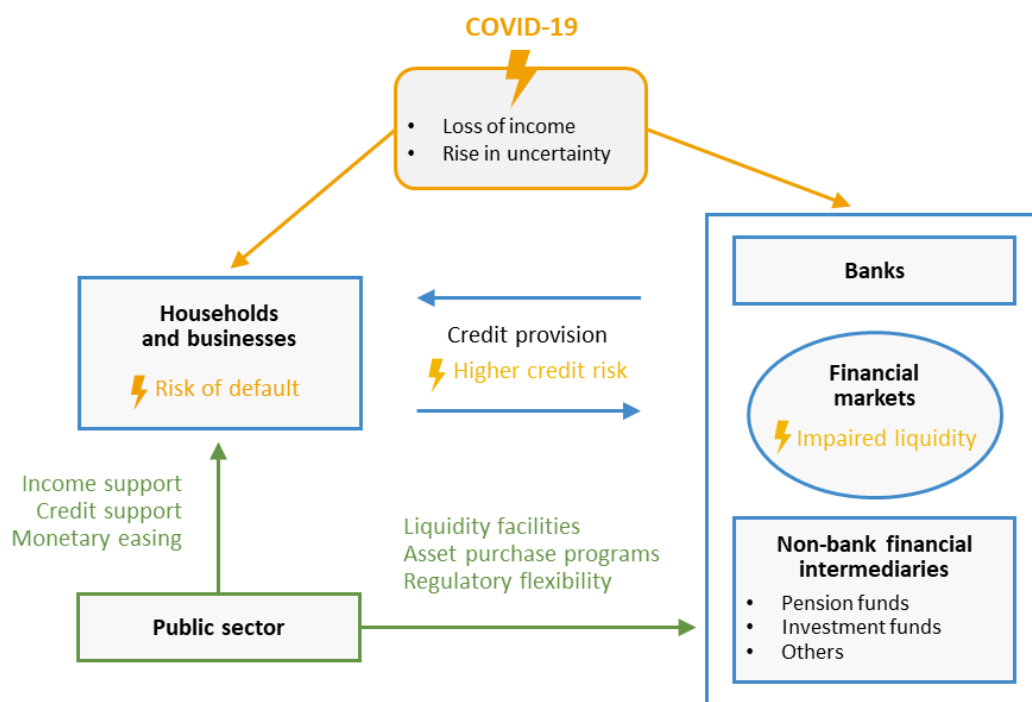
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COVID-19 is a severe health threat and a challenge to the economic well-being of Canadians. This *Financial System Review* (FSR) provides an in-depth analysis of the impacts of the pandemic and related containment measures on the Canadian financial system and considers the resulting implications for economic activity. Households, businesses and governments need a well-functioning financial system to manage the effects of the COVID-19 and support a robust recovery. The economic costs of the pandemic would be magnified if the financial system were not up to the task.

The pandemic affects both the capacity of firms to supply goods and services and the ability of consumers to make purchases. The global nature of supply chains makes production highly interconnected across countries, and disruptions in one country can quickly result in shortages in others.

Demand effects are rooted in income losses and uncertainty about just how bad things could get. Households and businesses are limiting their activities and spending because of mandatory physical distancing and fear of catching the virus. The initial impact of the pandemic was greatest in the travel, entertainment and food services sectors but has since become more broad-based. Businesses are also delaying investment decisions, and households are increasing their precautionary savings. Foreign demand, commodity prices and terms of trade have declined.

COVID-19 affects the financial system through many complex and interrelated channels. **Figure 1** provides a stylized overview. Some impacts are amplified by financial vulnerabilities that the Bank of Canada has previously identified, such as high indebtedness for households and businesses.

**Figure 1: How COVID-19 affects the financial system**

The fall in incomes and asset values and the rise in uncertainty about their future paths make lending to households and businesses riskier for banks and non-bank financial intermediaries. These conditions also lead investors to try to sell assets in financial markets. But the abrupt and widespread flight to cash makes selling assets difficult. If left unchecked, this decline in market liquidity could limit access to credit for households and businesses. This could hinder their ability to smooth the impact of the shock on spending and investment.

Strong policies have put a floor under the economy and laid a strong foundation for its recovery.<sup>1</sup> Concerted policy actions by the Bank and other authorities have helped restore market functioning, and liquidity conditions have improved significantly. Government support for households and firms is directly mitigating income losses. Lower policy interest rates are underpinning demand and helping to achieve the inflation target. Enhanced regulatory flexibility is providing financial institutions with greater scope to continue lending. Coordination between authorities has been essential to creating mutually reinforcing policies. These policies can adjust to the pandemic's impact on the economy.

This FSR has a different structure than is typical, focusing on the impact of COVID-19.<sup>2</sup> The next section sets the stage by describing the reaction of global financial markets to the evolution of the COVID-19 outbreak into a pandemic. The following section reviews how Canadian authorities responded to the resulting impaired market liquidity. The effects on credit provision are then discussed, followed by an analysis of the impact of the drop in household and business incomes. The FSR concludes with an assessment of the resilience of the financial system, including a look at the banking system in the more pessimistic scenario discussed in the April *Monetary Policy Report*.

The analysis in the FSR benefited from the collaboration of the new Systemic Risk Surveillance Committee (**Box 1**).



### Box 1: Collaboration through the Heads of Regulatory Agencies

## Global economic uncertainty has caused widespread stress

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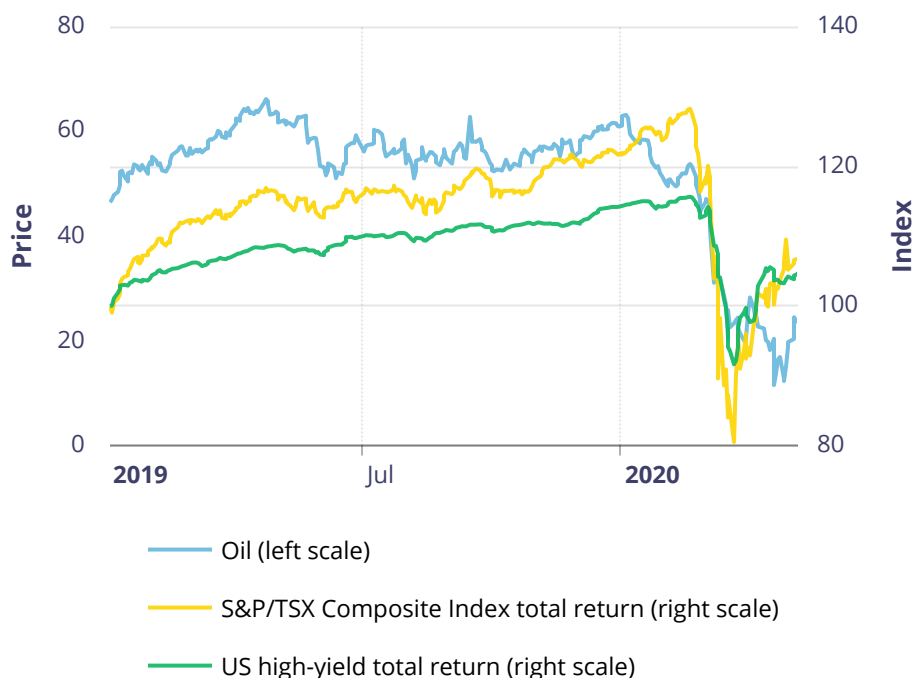
- » The global economic outlook has deteriorated with unprecedented speed and severity, causing an abrupt tightening in financial conditions. Central bank and government policy responses have helped offset some of this tightening and restore market functioning.

**Concern about the economic impact of COVID-19 overtook global financial markets as it became clear that the outbreak in China would become a full-fledged pandemic.** Financial conditions tightened at an extraordinary speed as uncertainty and stress in financial markets reached an elevated level.

Equity markets, including in Canada, declined abruptly and credit spreads jumped, especially in riskier market segments (**Chart 1**). Oil prices plummeted because of concerns about pandemic-related weakness in demand as well as intensified competition for market share. Portfolio outflows from emerging markets reached their fastest pace on record. Many of these markets depend on US-dollar funding and have limited policy tools to manage the effects of COVID-19.

**Chart 1: Equities and high-yield bonds recovered some of their losses, but oil prices remain at low levels**

Index: January 2, 2019 = 100, daily data



Note: Oil is West Texas Intermediate futures contracts rolled two days before expiration.

Sources: Bloomberg Finance L.P. and Bank of Canada calculations Last observation: May 7, 2020

**Many financial markets showed signs of panic as investors focused on worst-case scenarios.** The effects were widespread, and the correlation between many asset prices climbed. The loss of investor confidence and extreme volatility caused a global flight from risks of all sorts. Market participants rushed to sell assets to increase cash holdings. Market makers became reluctant to facilitate trades. Financial markets became impaired, with a severe deterioration in liquidity conditions.

The worsening economic outlook combined with the flight to high-quality liquid assets pushed yields on government bonds down in most advanced economies. The Bank of Canada cut the policy interest rate by 150 basis points, and five-year Government of Canada bond yields fell close to an all-time low. A large package of government support programs in Canada, equal to about 12 percent of gross domestic product (GDP), helped mitigate the immediate impacts of the pandemic. And additional measures to restore market functioning and improve liquidity for financial markets and banks helped make the fiscal and monetary policies more effective. These measures are discussed in more detail in the next two sections.

## Policy actions have alleviated impaired market liquidity in Canada

- » Liquidity strains were widespread across financial markets in March. The Bank intervened using liquidity and asset purchase facilities, which have improved market functioning and liquidity conditions.

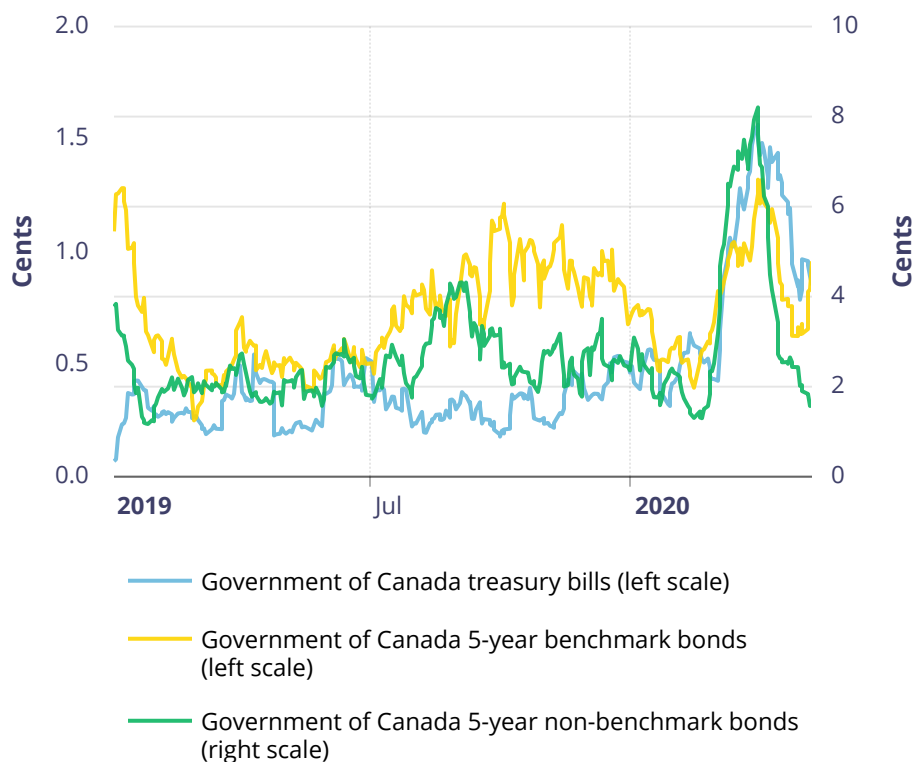
Market liquidity is crucial to support the provision of credit to households, businesses and governments (**Box 2**). **As liquidity conditions deteriorated in March, even markets for the safest Canadian-dollar assets—Canadian treasury bills and Government of Canada bonds—were negatively affected (Chart 2).**



**Box 2: The importance of market liquidity for the availability of credit**

**Chart 2: Policy actions have improved liquidity in Government of Canada debt**

Price-impact proxy, 10-day moving average



Note: The price-impact proxy measures the temporary impact of a trade on the price of the bond. For more details on the price-impact proxy, see S. Gungor and J. Yang, “**Has Liquidity in Canadian Government Bond Markets Deteriorated?**” Bank of Canada Staff Analytical Note No. 2017-10 (August 2017).

Sources: Canadian Depository for Securities and Bank of Canada calculations

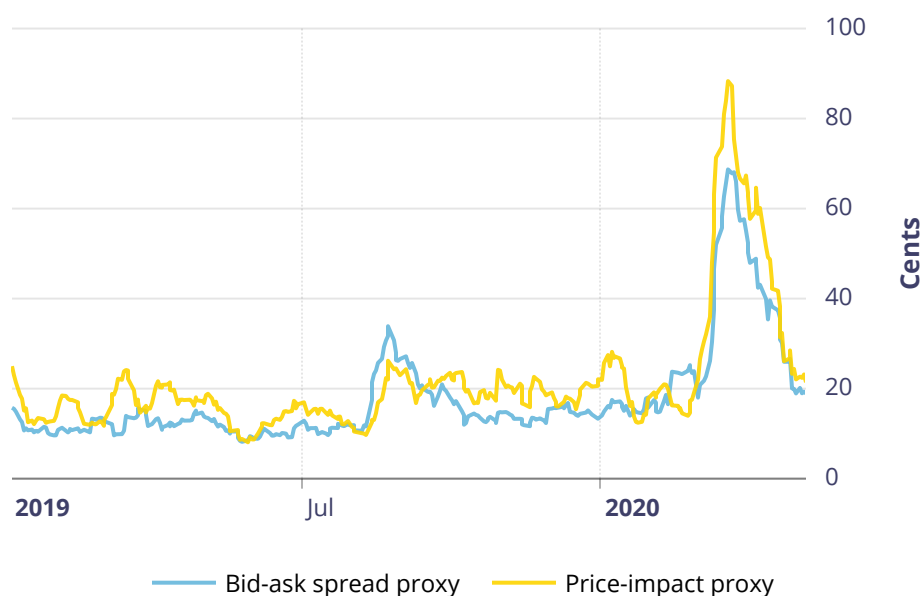
Last observation: May 7, 2020

The pricing of Canadian treasury bills and Government of Canada bonds sets the baseline for the entire fixed-income market. When the pricing of these securities becomes uncertain, it is harder to price other assets. In addition, Canadian government securities are essential collateral for trades in many other markets, allowing market makers to efficiently finance long positions and cover short positions. Because of this, a rapid drop in liquidity of Canadian government securities can make it more difficult to manage risk and can reinforce the transmission of liquidity strains across asset classes.

One of the affected markets is the provincial bond market, where liquidity deteriorated markedly in March (**Chart 3**). When market functioning is impaired, investors are reluctant to hold provincial debt, which makes it more challenging for issuers to get funding.

**Chart 3: Policy actions are also supporting liquidity for provincial debt**

10-day moving average



Note: The proxies include all traded provincial bonds with maturities greater than one year.

Sources: Canadian Depository for Securities and Bank of Canada calculations

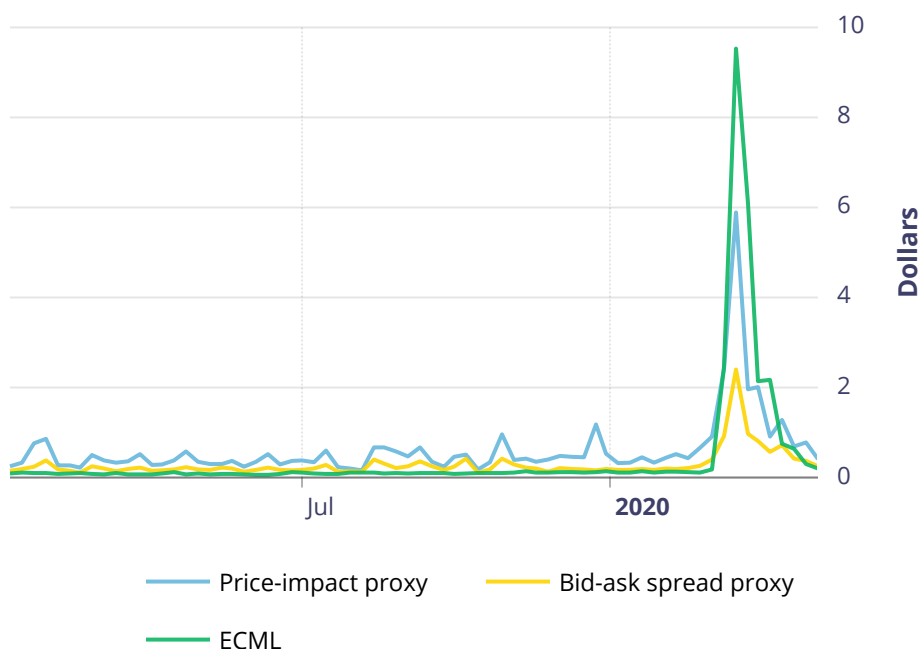
Last observation: May 7, 2020

Moreover, a range of indicators clearly show that market liquidity drastically deteriorated in the Canadian corporate fixed-income market in March (**Chart 4**). The impaired liquidity placed additional pressure on business funding costs and the ability of firms to raise cash. Issuance of corporate bonds almost stopped entirely in sectors affected by COVID-19. Corporations fell back on bank lines of credit.



**Chart 4: The deterioration in corporate bond market liquidity has reversed**

Weekly data



Note: ECML is a proxy for corporate bond market liquidity that uses the price and net asset value of exchange-traded funds. For more details on the ECML measure, see See R. Arora, G. Ouellet Leblanc, J. Sandhu and J. Yang, “**Using Exchange-Traded Funds to Measure Liquidity in the Canadian Corporate Bond Market**,” Bank of Canada Staff Analytical Note No. 2019-25 (August 2019).

Sources: Canadian Depository for Securities, Bloomberg Finance L.P. and Bank of Canada calculations

Last observation: May 4, 2020

The deterioration in market liquidity was also amplified in March by higher margin requirements. The increased frequency of margin calls coupled with falling collateral values caused funding problems for some investors who used leverage strategies. For example, some institutional investors use risk parity strategies that attempt to maintain a target level of volatility in each asset class.<sup>3</sup> A sharp and sustained increase in volatility forced these investors to rapidly deleverage and rebalance their portfolios. Investors who use leverage and derivatives to exploit small differences in yields between markets faced similar challenges.<sup>4</sup> Margin calls on these investors exacerbated the decline in market liquidity as the investors scrambled to sell assets to raise cash and cover their positions.

**The Bank of Canada has intervened to support liquidity in key funding markets.<sup>5</sup>**

Starting in mid-March, the Bank established and expanded a range of facilities and large-scale asset purchase programs to address problems with market functioning.



**Read COVID-19: Actions to Support the Economy and Financial System**

The size of the Bank's balance sheet has roughly tripled, growing from \$119 billion on March 4 to \$392 billion on May 6. This increase is much larger and occurred much faster than the growth that occurred during the 2007–09 global financial crisis, when the Bank's balance sheet increased by 50 percent from September 2008 to the peak of the crisis in March 2009.

These programs have helped improve market liquidity and market functioning across a wide range of markets (**Chart 2**, **Chart 3**, **Chart 4** and **Box 3**). In particular, new issuance of Canadian corporate bonds rebounded to around \$17 billion in April—one of the strongest monthly volumes since 2010.



### Box 3: The impact of new Bank of Canada liquidity facilities

The interactions between the various liquidity facilities have also likely amplified the positive impact on market confidence and functioning. The use of some programs declined in April, providing additional early signs of improvement in funding conditions. The Bank can scale the programs to address changing market conditions.

The Bank continues to deploy its policy tool kit to:

- support the flow of credit to the real economy
- strengthen the transmission of monetary policy so that lower policy rates can be passed through to borrowing costs

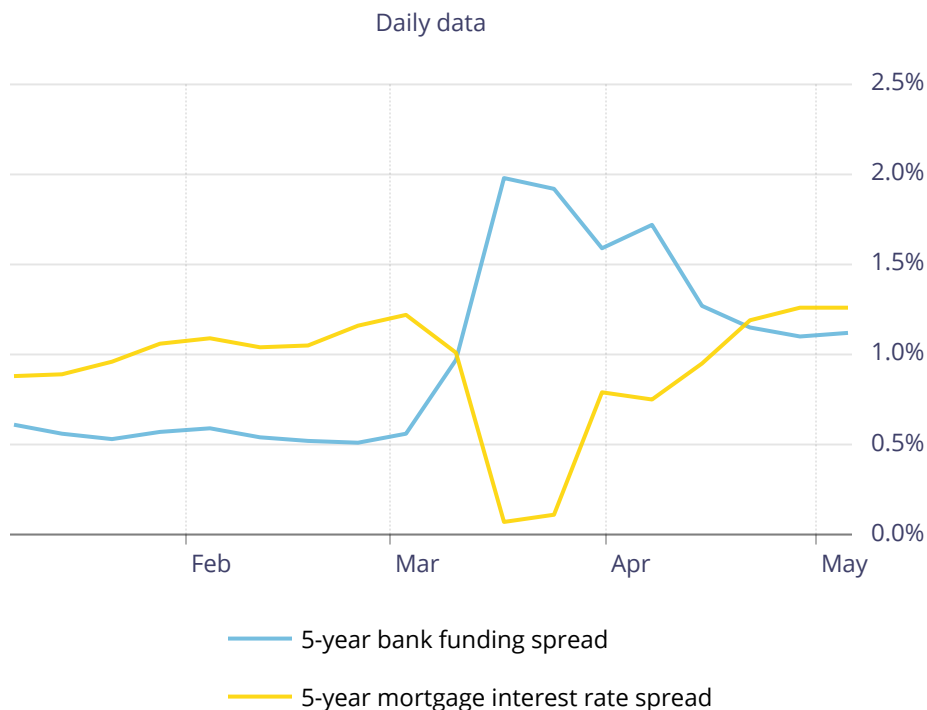
## Access to credit is important for managing the economic stress

### Banks

- » Funding conditions for banks have become more challenging due to impaired market liquidity and increased concern about the future performance of lenders' assets.
- » Policy actions are giving banks flexibility to help manage these pressures and enabling them to continue to provide credit.

**Canadian banks have been facing funding pressures at a time when households and businesses need access to credit to weather the pandemic.** Banks came into this stressful period with strong capital and liquidity positions. But the cost of wholesale funding rose rapidly in March (**Chart 5**). This was due to both impaired market liquidity (discussed in the previous section) and increased concerns about the quality of banks' assets. These concerns reflect the potential for more loan losses as well as greater exposures from the use of credit lines and loan payment deferrals.

**Chart 5: Bank funding pressures have eased since a sharp increase in March**



Notes: Bank funding spread is the difference between the 5-year deposit note rate for large banks and the 5-year Government of Canada bond rate. Mortgage interest rate spread is the difference between the 5-year fixed mortgage rate and the 5-year deposit note rate for large banks.

Sources: BMO Sapphire and Bank of Canada

Last observation: May 5, 2020

**Policy actions are giving banks greater flexibility to manage funding pressures.**

This includes Bank of Canada term repo operations and the Standing Term Liquidity Facility (STLF). These programs provide a backup source of funding when markets are stressed. They also provide flexibility in relation to loan maturity and required collateral.

Term repo is the facility most used by banks, with outstanding amounts of \$182 billion as at April 29. The new STLF facility is an important recent addition to the Bank of Canada's tool kit because it is available to a wider range of lenders than the term repo facility. The Bank will lend using the STLF only when it has no concerns about the soundness of the borrower. Thirteen financial institutions, including large and small banks, have drawn a total of \$10.7 billion from the STLF, and over 90 percent of that amount has already been paid back.

In addition, through the Insured Mortgage Purchase Program, administered by the Canada Mortgage and Housing Corporation, the Government of Canada stands ready to provide term funding through the purchase of up to \$150 billion of insured mortgage pools.

The Office of the Superintendent of Financial Institutions (OSFI) provided regulatory flexibility to lenders, which reinforced the effectiveness of these programs. Reforms following the 2007–09 global financial crisis created larger and higher-quality capital and liquidity buffers. OSFI is now encouraging banks to use part of these buffers to help supply credit to the economy during this stressful period.<sup>6</sup> OSFI lowered the Domestic Stability Buffer from 2.25 percent to 1 percent of banks' total risk-weighted assets and reminded banks that it is acceptable for the Liquidity Coverage Ratio to fall below 100 percent during a period of financial stress.<sup>7, 8</sup> It has also made temporary changes to the calculation of the leverage ratio to exclude settlement balances held at the Bank of Canada and certain sovereign debt. This allows banks to use liquidity programs and make markets in Government of Canada securities without constraining lending. In addition, OSFI temporarily increased its limit for covered bonds to provide issuers with additional capacity to use these instruments as collateral for funding through the Bank of Canada.

The Bank of Canada facilities and other government policies have contributed to better overall market liquidity conditions and have helped undo some of the increase in bank funding costs since March. On one hand, households and businesses with variable-interest-rate loans, including home equity lines of credit, have benefited from lower policy interest rates. On the other hand, longer-term fixed lending rates have remained relatively flat because bank funding spreads and mortgage interest rate spreads are higher than they were before COVID-19 (**Chart 5**).

**Banks have expanded credit to their clients.** Real estate secured lending to households posted the fastest growth since mid-2017 in March, but this largely reflects strength in housing markets before the COVID-19 outbreak. Bank non-mortgage loans to businesses were around 8 percent higher in March than in February (not annualized), driven by draws from credit lines.

Undrawn lines of credit available to businesses (around \$900 billion) and households (around \$800 billion) at the largest banks are some of the biggest potential sources of credit demand in the short term. In March and early April, businesses drew about 15 percent of their credit lines. In the energy sector, the utilization rate increased to close to 40 percent. Utilization rates are particularly high for many junior oil producers. The rate of drawdown by businesses has eased considerably since then, with some even paying back loans as they become more confident about having access to commercial paper and bond markets. So far, drawdowns of household credit lines have remained stable.

According to a recent survey, almost 30 percent of businesses requested additional credit from a financial institution in the first quarter. Small and medium-sized enterprises (SMEs) have reported a high rejection rate compared with normal times, indicating some stress.<sup>9</sup> The government has introduced additional programs to help SMEs address their funding challenges. These include the Business Credit Availability Program, which allows the Business Development Bank of Canada (BDC) and Export Development Canada (EDC) to work with private lenders to maintain the flow of credit.<sup>10</sup> In addition, loans issued by BDC increased sharply in April, reaching four times the typical monthly average.

Small and medium-sized lenders have an important role in providing credit to households and businesses. Among their diverse business models there are credit unions, monoline mortgage lenders, more diversified medium-sized lenders and subsidiaries of large financial groups. These lenders improve competition, and some fill important market niches, including by providing services to new Canadians and self-employed individuals.

In the COVID-19 environment, small and medium-sized lenders face considerably different risks. For example, these lenders differ in terms of their funding models, with some smaller banks relying on brokered deposits, which have historically been less stable than retail deposits.<sup>11</sup> Some may also have a higher concentration of exposures to heavily affected industries (e.g., commercial real estate and energy). Many smaller lenders manage these risks with higher capital levels. Like larger banks, most also have access to Bank liquidity facilities, including the new STLF.

## Non-bank financing

- » A large share of businesses refinancing in bond markets will likely face higher costs. The potential for the credit ratings of some businesses to be downgraded is intensifying refinancing risks.

Non-bank financing provides a valuable alternative to borrowing from traditional banks. As in many other countries, in Canada the non-financial corporate sector relies heavily on non-bank credit providers. For example, the amount of bonds outstanding issued by Canadian non-financial businesses increased from \$205 billion in 2008 to \$467 billion in 2019, with the increase evident across all sectors.

Refinancing needs for the next six months are in line with recent history, amounting to about \$11 billion, of which around 70 percent is BBB-rated (i.e., BBB+, BBB or BBB-). **The cost of refinancing using BBB-rated bonds has increased due to credit spreads that remain well above their pre-COVID-19 levels (Chart 6).**

**Chart 6: Canadian corporate bond spreads widened and partly reversed**

Daily data



Note: The series are Intercontinental Exchange Bank of America Merrill Lynch bond indexes.

Sources: Bloomberg Finance L.P. and Intercontinental Exchange Bank of America Merrill Lynch

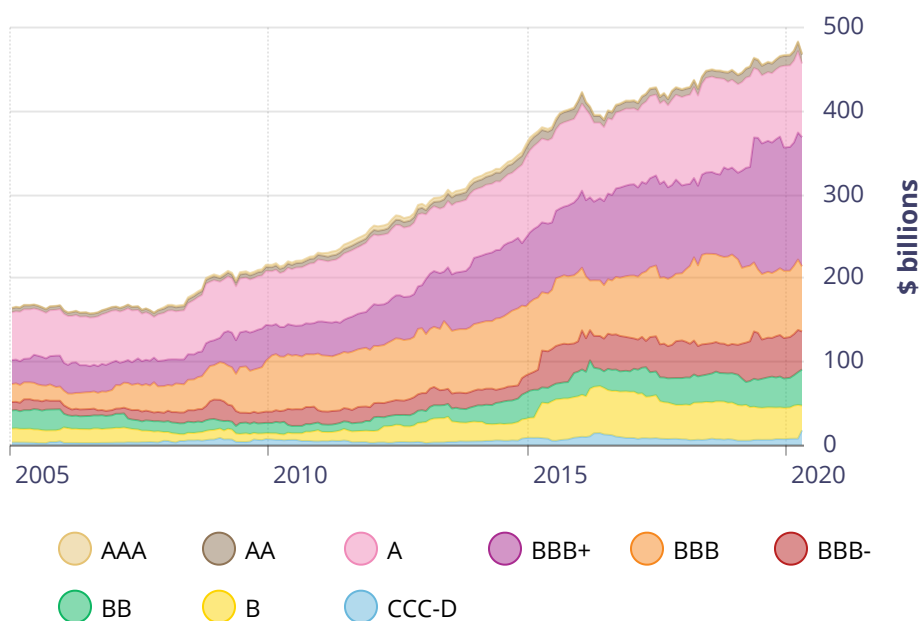
Last observation: May 7, 2020

**The risk of credit downgrades is intensifying refinancing risks.** BBB-rated bonds account for about 73 percent of outstanding investment-grade bonds, totalling \$283 billion (**Chart 7**). If all BBB-rated bonds with the same spread as BB+ bonds were downgraded, the stock of high-yield bonds would double to over \$160 billion.

The energy sector has the most refinancing needs over the next six months (\$6 billion) and faces the most potential downgrades (**Chart 8**). This sector’s ability to secure refinancing will be particularly tested with low oil prices. New credit programs being developed by BDC and EDC will help to mitigate the refinancing risks in the energy sector.<sup>12</sup>

**Chart 7: Three-quarters of non-financial investment-grade corporate bonds are now rated BBB+, BBB or BBB-**

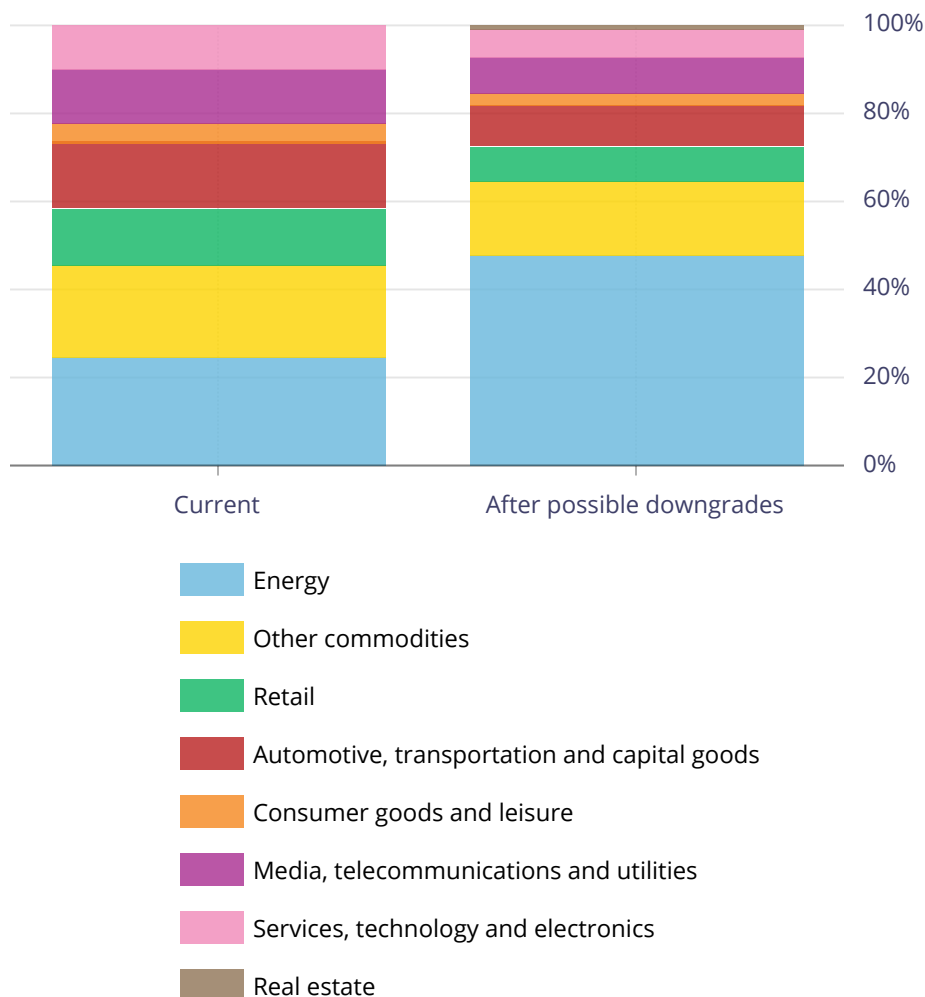
Monthly data



Sources: Bloomberg Finance L.P., Intercontinental Exchange Bank of America Merrill Lynch and Bank of Canada calculations  
 Last observation: April 2020

**Chart 8: Energy-related bonds could dominate the stock of high-yield debt**

Share of high-yield bonds



Sources: Bloomberg Finance L.P., Intercontinental Exchange Bank of America Merrill Lynch and Bank of Canada calculations  
Last observation: May 7, 2020

A credit downgrade could put further pressure on firms' cash flow positions through several channels:

- Funding costs could increase further.
- Restrictive covenants in debt contracts could constrain firms' ability to make financial and operational adjustments.
- Margin calls could increase liquidity demands.

As discussed in the 2019 *Financial System Review*, a deterioration in the creditworthiness of some Canadian firms has led to increased reliance on debt funding from more fragile markets, including the US leveraged loans market. Following the COVID-19 shock, riskier firms are finding it difficult to access these markets, partly due to the shift in investor sentiment.

**Alternative lenders, such as mortgage investment corporations (MICs) and private lenders, have played a small but increasing role in providing credit to households and SMEs in recent years.** Nationally, MICs are responsible for about 1.5 percent of residential mortgage lending. Private lenders are important in certain major markets. In the Greater Toronto Area, they account for about 7 percent of new residential mortgages. Recently, some alternative lenders suspended investor redemptions to avoid potential liquidity pressures. Other small independent lenders traditionally involved in the financing of SMEs have reported challenging market conditions that, if persistent, could jeopardize the future of their business. Households and SMEs that are being served by some of these lenders may find it more difficult to access credit in the future and may have limited alternative options if they cannot access traditional lenders.

## Households and businesses are facing income losses

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### Households and housing markets

- » Household employment incomes have been hit hard, and many Canadians face financial difficulty, especially those that are already highly indebted. Flexible income replacement policies play a central role in mitigating the impact on households.

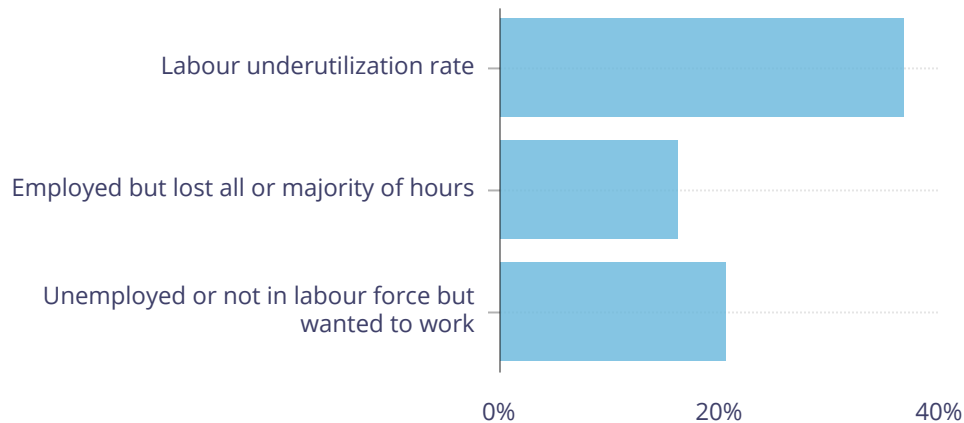
**COVID-19 has led to a sharp loss in household employment incomes.** A large share of the labour force is now unemployed or substantially underutilized (**Chart 9**). And this will continue for an unknown period. The unemployment rate in April 2020 was worse than that experienced during the 2007–09 global financial crisis, and those employed were working a lot fewer hours.

Income uncertainty and physical distancing have led to considerably slower activity in housing markets, with sales and listings both down sharply.<sup>13</sup> Reduced liquidity in the housing market could add pressure to household finances since households may find it increasingly difficult to sell their homes. Most households now expect house prices to decline over the next 6 to 12 months.<sup>14</sup>



### Chart 9: There has been a sharp loss in household employment income

Monthly data



Note: The labour underutilization rate is the sum of the other two categories.

Sources: Statistics Canada and Bank of Canada calculations

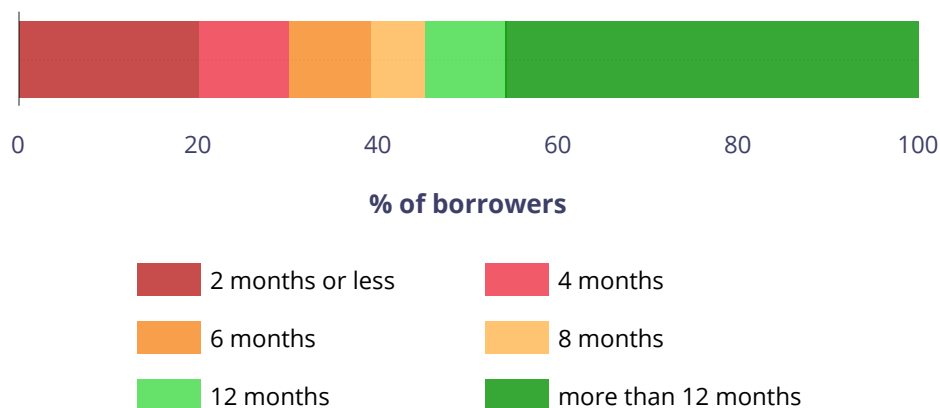
Last observation: April 2020

Affected households will struggle to manage income losses. The adjustment will be especially difficult for those that are highly indebted and must dedicate a large share of their incomes each month to regular payments (**Box 4**). In addition, many households have limited liquid assets. About 20 percent of all mortgage borrowers do not have enough liquid assets to cover two months of mortgage payments (**Chart 10**).<sup>15</sup>



#### Box 4: Debt in the Canadian economy

### Chart 10: Many borrowers can cover only a few months of mortgage payments with liquid assets



Sources: Statistics Canada's 2016 Survey of Financial Security and Bank of Canada calculations

**Flexible policies are mitigating the economic impact.** A strong feature of the federal government's recently announced income replacement programs is that they can be scaled to respond to the size and duration of the economic impact.

The Canada Emergency Response Benefit gives \$2,000 per month to individuals who have lost their income due to COVID-19. The Canada Emergency Wage Subsidy pays 75 percent of salaries—up to \$847 per employee per week for qualifying businesses that keep employees on their payrolls.<sup>16</sup> These measures can cover a large portion of core spending for many households, as demonstrated by median core expenses shown in **Table 1**.

**Table 1: Total household monthly expenses**

Income groups	Mortgage holder			Renter		
	Bottom	Middle	Top	Bottom	Middle	Top
<b>Shelter (\$)</b>	1,492	1,661	2,218	835	1,160	1,334
<b>Food (\$)</b>	485	637	913	355	617	869
<b>Internet and cell phone (\$)</b>	129	157	197	80	161	218
<b>Total core expenses (\$)</b>	2,228	2,570	3,463	1,317	1,999	2,418
<b>Proportion of single-person households (%)</b>	48	16	3	66	25	8

Note: Households in all Canadian provinces are divided into three equal groups by incomes. Figures are the medians for the selected subgroups in each of these terciles. Totals in the table do not sum because the median of the sum is not the same as the sum of the medians.

Sources: Statistics Canada 2017 Survey of Household Spending and Bank of Canada calculations

Many households will also use loan payment deferrals or increased borrowing to help bridge income losses. Canadian banks have allowed more than 700,000 households to delay mortgage payments and have also provided increased flexibility on payments for credit cards and lines of credit. This is keeping debt payments down for many households. However, after the six-month deferral period ends, debt-service payments will rebound. The proportion of households with debt-service payments of more than 40 percent of their income, an indicator of household vulnerability, is likely to rise. This will be particularly the case for households whose incomes do not fully recover.

**Despite the deferrals and added borrowing, some households are likely to fall behind on their loan payments.** This typically appears first in missed credit card and auto loan payments and later in mortgage payments. The situation in Alberta and Saskatchewan, where the share of households that fell behind on their payments had already been increasing, is of particular concern.<sup>17</sup>

Compared with homeowners, renters tend to be less indebted but are more likely to work in industries heavily affected by COVID-19. Those who experience difficulties in making rent payments could also pass on financial stress to landlords, many of whom are households with mortgages.

The longer the income shock lasts, the greater the risk of a rise in consumer insolvencies. Flexible policy support can adapt as the situation evolves (**Box 5**).



**Box 5: COVID-19 through the lens of historical events**

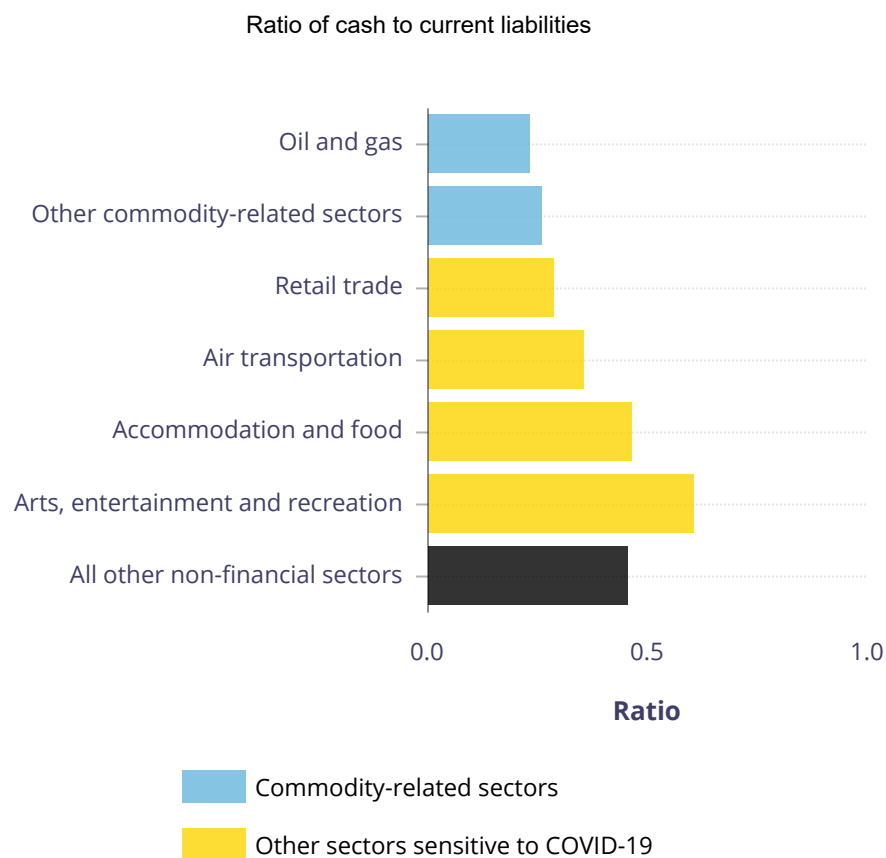
## Businesses

- » A sharp drop in revenues caused by COVID-19 is creating great stress on many Canadian businesses, particularly those that are highly indebted and have few liquid assets. Government programs are helping businesses bridge the income gap.

In a recent survey, about one-third of Canadian businesses reported at least 40 percent less revenue in the first quarter of 2020 relative to the previous year.<sup>18</sup> A further one-fifth reported declines of between 20 and 40 percent. SMEs, which employ a large majority of private sector workers, were particularly affected. On a sectoral basis, declines in business revenue were the greatest in accommodation and food services. Losses in the arts, entertainment and recreation sector as well as retail trade were also especially large.

**The sharp drop in revenues caused by COVID-19 makes it difficult for many businesses to meet fixed payments, including debt payments.** The problem is particularly severe for highly indebted businesses (**Box 4**). It is also challenging for energy firms dealing with lower oil prices, many of whom were still adjusting to the previous collapse in world oil prices in 2014–16.

Businesses with a strong cash position have more capacity to make payments after a fall in revenues. Compared with the average firm, those in some of the industries most affected by COVID-19—representing around one-third of corporate revenue in Canada—have less cash relative to their short-term financial obligations (**Chart 11**). And commodity-related sectors have among the lowest cash ratios.

**Chart 11: Some industries sensitive to COVID-19 have limited cash buffers**

Sources: Statistics Canada's Quarterly Financial Statistics for Enterprises and Bank of Canada calculations  
Last observation: 2019Q4

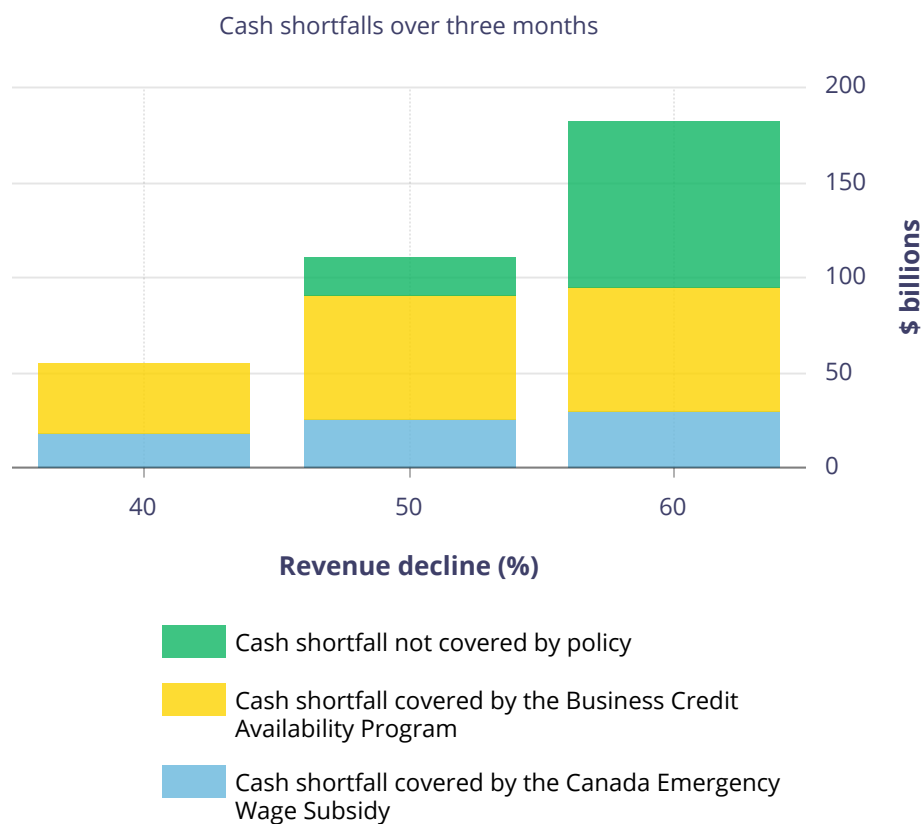
Cash flow stresses have already led some businesses to sell assets. According to the recent survey, around 8 percent of firms liquidated 10 percent or more of their assets in the first quarter in response to COVID-19.<sup>18</sup> Smaller firms (those with less than 100 employees) were most likely to sell assets.

Whether firms will be able to meet their payment obligations during the COVID-19 shutdown and recovery depends on more than just their cash buffers. It also depends on the size and duration of the decline in their revenue, their ability to reduce expenses, their access to credit and equity financing and the degree to which government programs can fill the gap.

**Policy actions are helping businesses manage their cash flow needs and prepare for the recovery.** Government policies such as the Canada Emergency Wage Subsidy and the Canada Emergency Commercial Rent Assistance Program help firms continue to pay their workers and make rent payments despite significant declines in revenues. Beyond these direct supports, firms will need to borrow to bridge their cash flow gaps. Programs like the Canada Emergency Business Account and Business Credit Availability Program help make credit accessible to businesses.<sup>19</sup>

Together, these programs fill a substantial portion of the cash flow gap for Canadian firms. For example, take a scenario in which revenues in all industries fall by 60 percent for three months. In this case, if businesses cut their operating expenses by between 20 and 30 percent, the total extra cash needed to meet their obligations over three months could be around \$180 billion. In this scenario, government programs are sufficient to cover more than half of these needs (**Chart 12**). However, these calculations use industry averages and therefore likely underestimate aggregate cash shortfalls.

**Chart 12: Policy measures will help reduce cash shortfalls**



Note: Expenses are assumed to fall between 20 and 30 percent depending on the proportion of fixed costs in the industry.

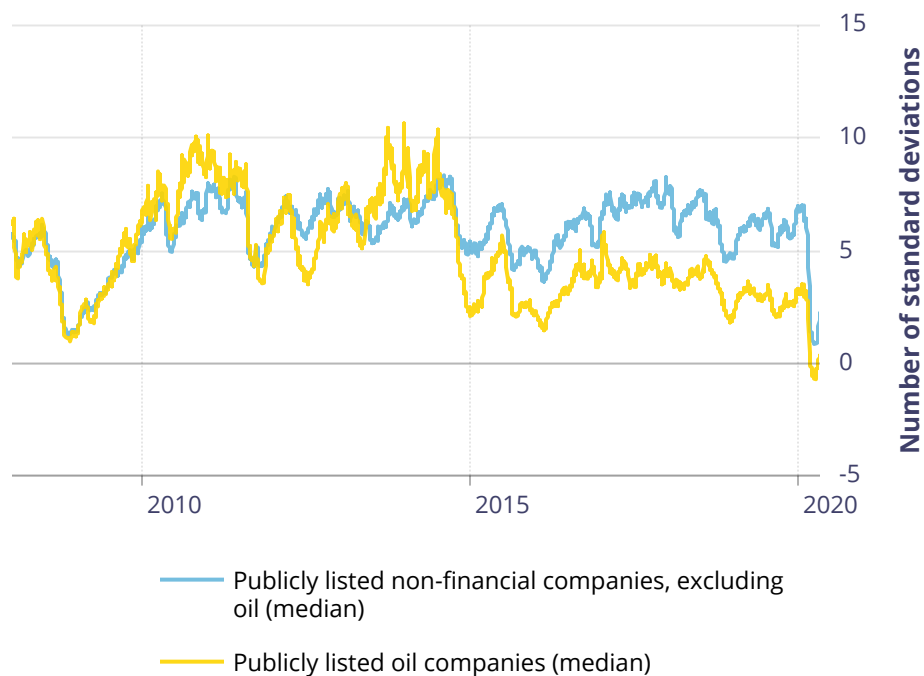
Sources: Statistics Canada's Quarterly Financial Statistics for Enterprises and Bank of Canada calculations

**What started as a cash flow problem could develop into a solvency issue for some businesses.** This becomes more likely if the loss in revenues extends over a long period. Lingering concerns about COVID-19 could lower demand in some industries, damaging their earning capacity. For example, demand for travel services may recover very slowly. The potential for solvency problems also depends on the ability of businesses to access credit from financial markets and banks and therefore becomes more likely if stress in the financial system returns.

Equity market prices are one way to gauge concerns over the solvency of non-financial corporations. These prices and their volatility, combined with balance sheet information, can be used to calculate a measure of “distance to default.” This measure can be interpreted as an indicator of the likelihood that a firm’s debt obligations will exceed its asset value.<sup>20</sup> On this basis, market prices imply concern about the ability of some firms to weather this shock (**Chart 13**).

### Chart 13: Market concerns about business defaults have increased

Distance to default, daily data



Note: Distance to default compares asset values with debt values, normalized by asset value volatility. It uses the market value of equity and a simplified capital structure and should be considered indicative of changes in default risk but not a precise measure of potential defaults.

Sources: Refinitiv and Bank of Canada calculations

Last observation: May 7, 2020

## The financial system remains resilient

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The resilience of the financial system is vital to the economic well-being of Canadians. The financial system provides credit, liquidity, and payment and settlement services that are necessary for managing the economic impacts of the pandemic and creating an environment that facilitates a robust recovery. This section shows that banks, bond funds and financial market infrastructures are strong enough to deal with these challenging conditions, including operational disruptions.

### Banking system

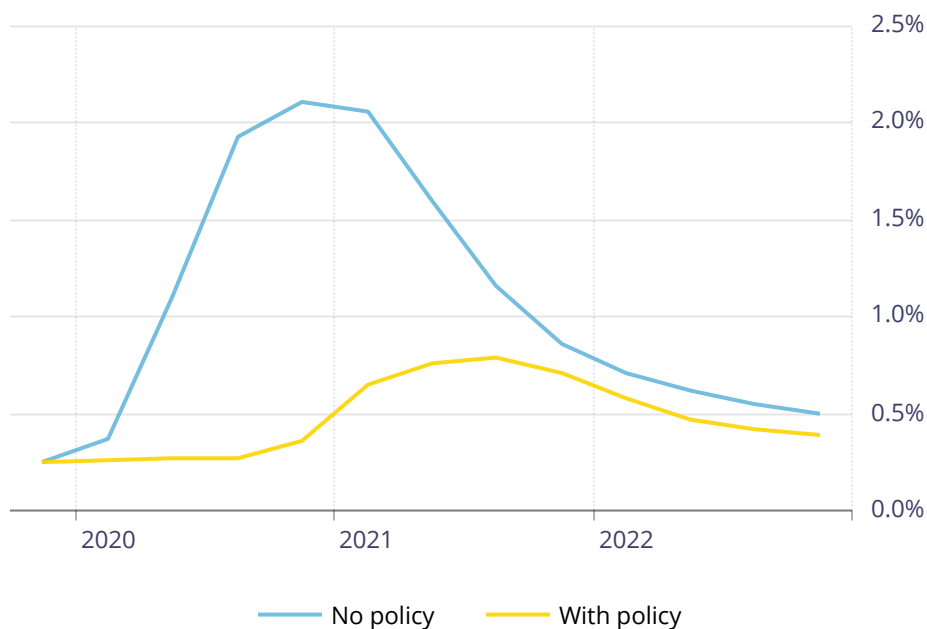
- » Canadian banks have substantial capital and liquidity buffers. Combined with an aggressive public policy response, these buffers support the ability of banks to manage the economic consequences of COVID-19. This allows them to continue lending to households and businesses.

The outlook for Canadian economic activity is highly uncertain. The Bank of Canada's April 2020 *Monetary Policy Report* presented a range of possible scenarios. The top of the range corresponds to a scenario where containment measures are lifted, at least in part, in May and policy measures successfully limit persistent damage to the economy. The bottom of the range corresponds to a scenario where containment measures extend into the summer. In this scenario, economic activity in the second quarter is as much as 30 percent below its level at the start of the year. Structural damage to the economy would lead to a slower recovery, and GDP would still be well short of its original trendline, even after two years. These scenarios incorporate the contribution of the policy actions announced as of mid-April. They also account for the effects of household loan payment deferrals made available by banks.

**Bank of Canada staff analyzed the resilience of the six largest banks in the more pessimistic scenario.**<sup>21, 22</sup> This gives an indication of the banks' capacity to support a challenging economic recovery. The unprecedented nature of the pandemic, however, makes the uncertainty around the results exceptionally high.

In this scenario, policy actions combined with payment deferrals limit the rise in mortgage arrears (**Chart 14**, "With policy"). The scenario's peak arrears rate of around 0.8 percent comes in the second half of 2021, when payment deferrals have expired but not all households have had their incomes fully recover. This peak is close to double the peak arrears rate in 2009.

**Chart 14: The rise in mortgage arrears in the scenario is limited by policy actions and payment deferrals**



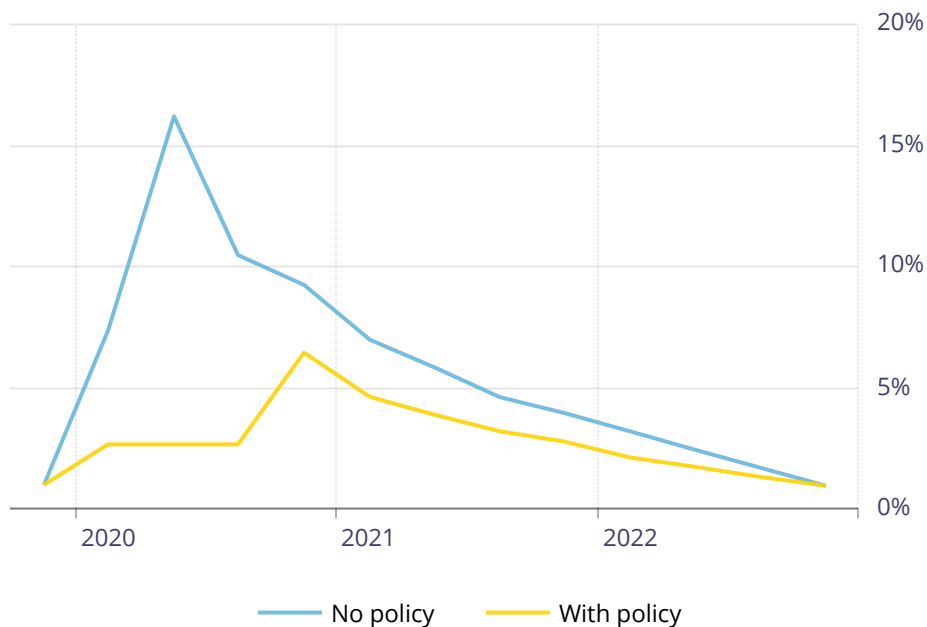
Note: The “With policy” scenario includes payment deferrals.  
Source: Bank of Canada calculations

Policy actions that provide credit support to businesses limit the rise in non-performing loans caused by cash shortfalls in the scenario (**Chart 15**, “With policy”). Nonetheless, the peak is higher than those experienced in 2003 (4.8 percent) and 2010 (4.1 percent).

A counterfactual scenario without policy actions or household loan payment deferrals is also simulated. In the absence of these measures, households and businesses would fare much worse (**Chart 14** and **Chart 15**, “No policy”).



**Chart 15: Non-performing business loans are also held down by policy**



Source: Bank of Canada calculations

In the “With policy” scenario, business loans are the biggest contributor to credit losses, and market losses also reduce capital. Losses from household lending are less pronounced. Still, losses on consumer loans such as credit cards are high compared with residential mortgage portfolios, which are protected by collateral and, in some cases, mortgage insurance.

The increase in the Domestic Stability Buffer (DSB) in recent years has helped banks come into this period with a substantial capital buffer. The DSB was reduced in March, allowing banks to continue lending even as their capital level declines. Their capital ratio in the scenario remains above the new 9 percent regulatory requirement (**Chart 16**).

### Chart 16: Capital buffers are adequate to absorb losses in the scenario

Common equity Tier 1 capital as a percentage of risk-weighted assets in the scenario with policy and loan payment deferrals



Source: Bank of Canada calculations

The six largest banks entered the COVID-19 period with strong capital and liquidity buffers, a diversified asset base, the capacity to generate income and the protection of a robust mortgage insurance system. The Canadian economy was also in a solid position before the onset of COVID-19. **With these strengths, as well as the aggressive government policy response to the pandemic, the largest banks are in a good position to manage the consequences.** Without the aggressive policy responses, banks would be faring much worse, with important negative effects on the availability of credit to households and businesses.

## Asset managers

- » The liquidity management strategies of fund managers, supported by policy measures, have helped bond funds limit and manage an increase in redemptions without amplifying negative effects on market liquidity.

Asset managers are playing a growing role in financing the Canadian corporate sector. In the past decade, corporate debt held by investment funds has increased rapidly, especially among Canadian open-ended fixed-income mutual funds (bond funds). These funds now hold 23 percent of all corporate bonds.

COVID-19 caused the value of bond fund assets to fall. Some investors reacted by exiting these funds, with redemptions reaching \$14 billion in March, amounting to around 4.5 percent of assets under management ([Table 2](#)).

**Table 2: Bond fund redemptions**

	March 2020	Model simulation
Net redemptions (\$ billions)	14	31
Assets under management (\$ billions)	323	323
Redemptions as a percent of assets (%)	4.5	9.5

Sources: Morningstar Direct and Bank of Canada calculations

The Bank of Canada's liquidity and asset purchase facilities helped to calm markets and limit investor redemptions. Fund managers also played a role in preventing large redemptions by intensifying relationship management with investors. The redemptions from bond funds were substantially less than what is predicted by a model simulation based on the credit spreads that prevailed in March (**Table 2**).<sup>23</sup>

In addition, both securities regulators and fund managers took actions that helped funds meet outflows. Securities regulators gave bond fund managers additional flexibility to use borrowing to manage liquidity demand for investor redemptions.<sup>24</sup>

Anecdotal evidence suggests that most fund managers met the demand for redemptions with cash and other liquid assets. Available data suggest that cash holdings of bond funds declined from 4.2 percent to 3 percent of assets under management in the quarter ending in March.

**The combined actions of fund managers and authorities helped prevent funds from amplifying adverse liquidity conditions by selling bonds in a market under severe liquidity strains.**<sup>25</sup> If bond funds face another wave of large redemptions, they may be more vulnerable because they have used part of their cash buffer. By rapidly rebuilding their cash buffers, they can help avoid future forced sales of assets that are less liquid.<sup>26</sup>

The recent activation of the Contingent Term Repo Facility by the Bank could provide liquidity to market participants outside the traditional banking sector, such as asset managers. Mitigation measures have also been taken to prevent forced sales by asset managers due to possible credit downgrades. These measures include:

- more flexibility by fund regulators regarding how quickly fund managers must divest downgraded bonds
- postponement of index rebalancing to prevent forced sales of downgraded bonds by index funds

## Financial market infrastructures

- » Financial market infrastructures are operating well, supporting the continuous functioning of core funding markets and important payment systems. Operational changes related to COVID-19, the high volume and value of transactions and elevated market volatility are all being managed carefully.

COVID-19 poses challenges for financial market infrastructures (FMIs) because it has amplified the volume and value of transactions, increased market volatility and changed the operational environment. FMIs under the Bank's oversight are managing these challenges, however, and continue to operate normally. Improvements in the ability of FMIs to manage risk since the 2007–09 global financial crisis, including the implementation of globally agreed-upon Principles for Financial Market Infrastructures, have put FMIs in a good position to handle the challenges. Some FMIs are using the lessons learned from the pandemic to improve their risk models further.

FMIs have invoked their business continuity plans, so most employees are working remotely, and only staff responsible for essential operations are on site. Despite increases in volumes and values transacted, activity remains within capacity constraints.

FMIs continue to assess how the COVID-19 pandemic is affecting their ability to manage the default of one or more participants. Price fluctuations in excess of those included in FMI's standard stress tests could result in central counterparties having insufficient financial resources to manage the default of a clearing member. In addition, impaired market liquidity and a more challenging operational environment could make it more difficult than usual to liquidate collateral and replace positions after a default.

Central counterparties have responded to higher market volatility by collecting more financial resources. For example, initial margins at the Canadian Derivatives Clearing Corporation (CDCC) have increased significantly. This includes a discretionary increase in initial margins beyond what was required by the standard model. As a result, the CDCC has more prefunded financial resources at its disposal if a clearing member were to default. More collateral improves the protection of FMIs but places additional pressure on the funding and liquidity positions of member financial institutions.

For payment systems, the Bank is committed to providing all the liquidity necessary to maintain their smooth functioning. To that end, the Bank has taken significant measures, including activating and expanding liquidity and asset purchase facilities and allowing settlement balances to increase.

The Bank also continues to work with the six largest Canadian banks and Payments Canada to enhance the resiliency of the wholesale payments systems through benchmarking, testing and information sharing. And the Bank continues to promote a modern, safe and efficient payments sector, even as innovation may be accelerating in response to COVID-19 (**Box 6**).



**Box 6: Work on modern, safe and efficient payment systems continues**

## Operational challenges

- » Illness and remote work could disrupt crucial financial services. They might also leave financial institutions more exposed to cyber threats. The Canadian Financial Sector Resiliency Group meets regularly to share information and promote a coordinated response.

COVID-19 has made financial system operations vulnerable to disruptions because some vital staff may become ill. In addition, not all roles can be effectively performed remotely. For example, security or technical requirements may require restricting some trading floor or back-office functions to onsite work. In addition, impaired communication and coordination may make remote work less effective.

The more challenging operational environment may have contributed to the market dislocations observed in March. It likely became more difficult to find counterparties, especially in over-the-counter markets where one-on-one negotiation is crucial. This contributed to greater uncertainty around market prices and overall market stress.

Major financial institutions, FMIs, central banks and governments have business continuity plans in place that help manage this vulnerability. Overall, these plans are allowing the financial services sector to continue to operate well in a remote work environment. Still, some challenges are surfacing as the plans are executed. For example, some firms have not provided adequate network capacity to support mass remote work, and network bandwidth in residential areas may not be sufficient to deal with it. In addition, it is unclear if these arrangements—designed to manage short-term disruptions—are sustainable for a long period. Financial institutions also need to closely monitor key service providers to identify any developing problems.

The Bank of Canada leads the Canadian Financial Sector Resiliency Group (CFRG). The mandate of the CFRG is to coordinate both resiliency initiatives and critical responses to systemic-level operational incidents in the financial sector. The CFRG Steering Committee currently meets biweekly to share status updates on the impacts of COVID-19 and emerging operational issues, including cyber threats. This includes sharing information on business continuity plans and contributing to cross-government operational resilience initiatives, such as the weekly critical infrastructure discussion at the National Cross Sector Forum led by Public Safety Canada.

In addition, the move to remote work, increased pressure on information technology staff and general uncertainty could expose new weaknesses and leave financial institutions more exposed to other operational vulnerabilities. For example:

- Financial institutions may be much less capable of responding to and containing a cyber incident while they manage the effects of COVID-19.
- A remote work environment that is difficult for security staff to control has changed and expanded attack surfaces that an attacker might exploit. The Canadian Centre for Cyber Security expects the remote workforce to almost certainly be targeted more and more by foreign intelligence services and cyber criminals.
- Changing trading patterns have made trade surveillance—which is necessary for security and compliance purposes—much more challenging.
- There is evidence of increased phishing and malware attacks designed to take advantage of the growth in remote work and the public appetite for information related to COVID-19. Cyber criminals are also using public interest in new government support programs to lure users to malicious websites.

## Boxes

### **Box 1: Collaboration through the Heads of Regulatory Agencies**

The Heads of Regulatory Agencies (HoA) is an important federal-provincial forum for cooperation on financial sector issues. Chaired by the Bank of Canada, the HoA brings together the Department of Finance Canada, the Office of the Superintendent of Financial Institutions (OSFI) as well as the Autorité des marchés financiers, the Ontario Securities Commission, the British Columbia Securities Commission and the Alberta Securities Commission.

In late 2019, the HoA created the Systemic Risk Surveillance Committee to improve the monitoring and assessment of systemic risk in the financial system. This new committee also incorporates views from the Canada Mortgage and Housing Corporation, Canada Deposit Insurance Corporation, BC Financial Services Authority and the Financial Services Regulatory Authority of Ontario. The group's work contributes to the Bank of Canada's assessment of the financial system that is published in the *Financial System Review*.

Over the past year, the HoA has also reviewed important financial system topics, including:

- climate change—the recommendations put forward by the Expert Panel on Sustainable Finance and the agencies' own policy initiatives related to climate change<sup>27</sup>
- imbalances in the housing market—the impact of the mortgage stress test and the reactions of mortgage finance companies and mortgage investment corporations
- reforms to financial benchmarks—enhancements to Canada's existing overnight risk-free rate and provincial rule-making for benchmarks
- cryptoassets—new stablecoin initiatives and the regulatory coverage of different kinds of cryptoassets from the HoA's Cryptoasset Working Group
- cyber resilience—cyber contingency planning by the newly established Canadian Financial Sector Resiliency Group



## **Box 2: The importance of market liquidity for the availability of credit**

Markets are liquid when sellers and buyers can trade large amounts on short notice at predictable prices. But when markets experience strain, such as during the flight to cash caused by COVID-19 in March, transactions become more difficult. This was true even in the market for Government of Canada bonds, which are the safest Canadian-dollar securities.

Many financial markets rely on the services of market makers, who quote prices and stand ready to buy and sell securities. In times of stress, this service can become prohibitively risky and costly for two reasons. First, market makers need credit—sometimes called funding liquidity—to finance their inventory of securities. During market turmoil, tougher credit conditions hamper their ability to facilitate trading. Second, market makers are less willing to hold securities in periods of heightened uncertainty when prices become volatile.

Poor market liquidity and tight credit conditions can reinforce each other and create a negative spiral, making it even more difficult for market makers to provide liquidity.<sup>28</sup> This, in turn, hampers the issuance of new debt by firms and governments because banks, asset managers and other credit providers rely on liquid financial markets to manage risks.

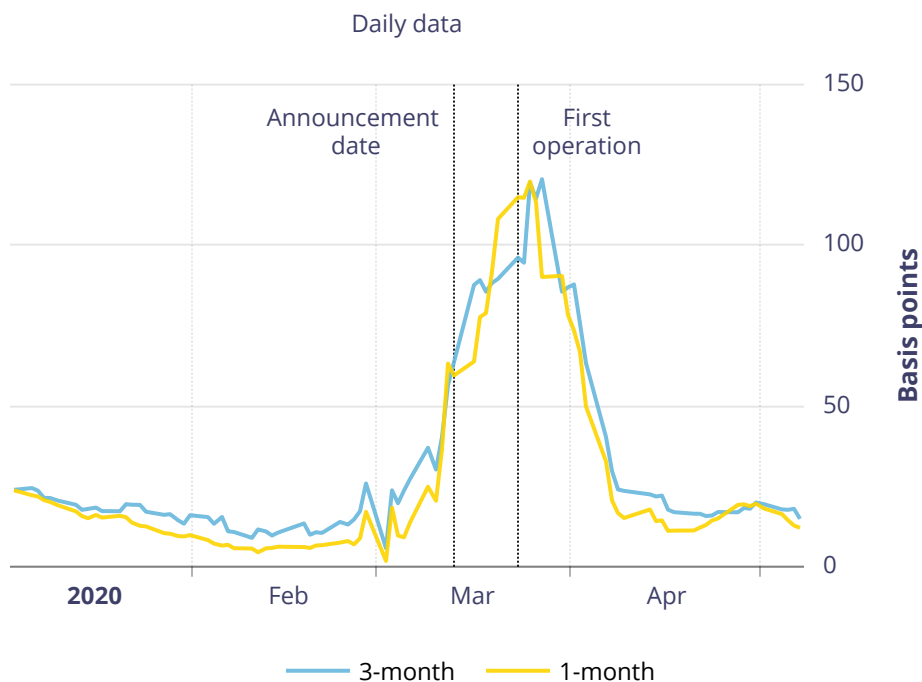


### Box 3: The impact of new Bank of Canada liquidity facilities

The Bank of Canada's liquidity facilities have helped improve market functioning and liquidity conditions across a range of markets.

The Bankers' Acceptance Purchase Facility (BAPF) had a noticeable impact on the market for bankers' acceptances (BAs). The BA market is an important source of short-term funding that banks use to support lending to small and medium-sized corporate borrowers.<sup>29</sup> In March, the spreads between BAs and overnight index swaps (OIS) widened significantly, reaching their highest levels since the 2007–09 global financial crisis. This was caused by increased uncertainty about the severity of firms' cash flow problems. At its peak in early April, the BAPF held close to \$40 billion in BAs. The one-month and three-month BA-OIS spreads have narrowed by 100 basis points on average from about 120 basis points at their peak (Chart 3-A). Tightening the spreads is not the purpose of the liquidity facilities, but it does suggest a better-functioning market.

**Chart 3-A: BA-OIS spreads returned to normal levels**

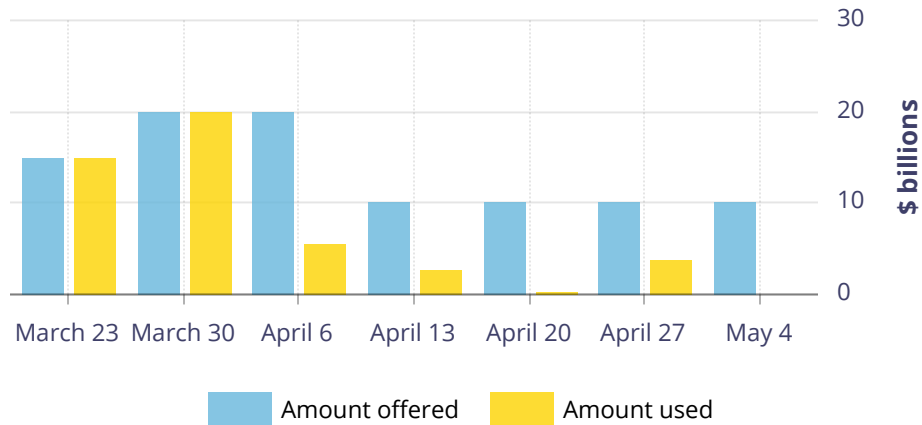


Sources: Bloomberg Finance L.P., Investment Industry Regulatory Organization of Canada and Bank of Canada calculations  
Last observation: May 7, 2020

Most of the BAs purchased by the BAPF have already matured. The utilization rate of BA purchases has declined since the first operation (Chart 3-B). Only 20 percent of the amount offered by the Bank has been used by market participants since April 6. This suggests that corporate clients have less need for extraordinary liquidity support.



**Chart 3-B: Less use of bankers' acceptance facility points to better market functioning**

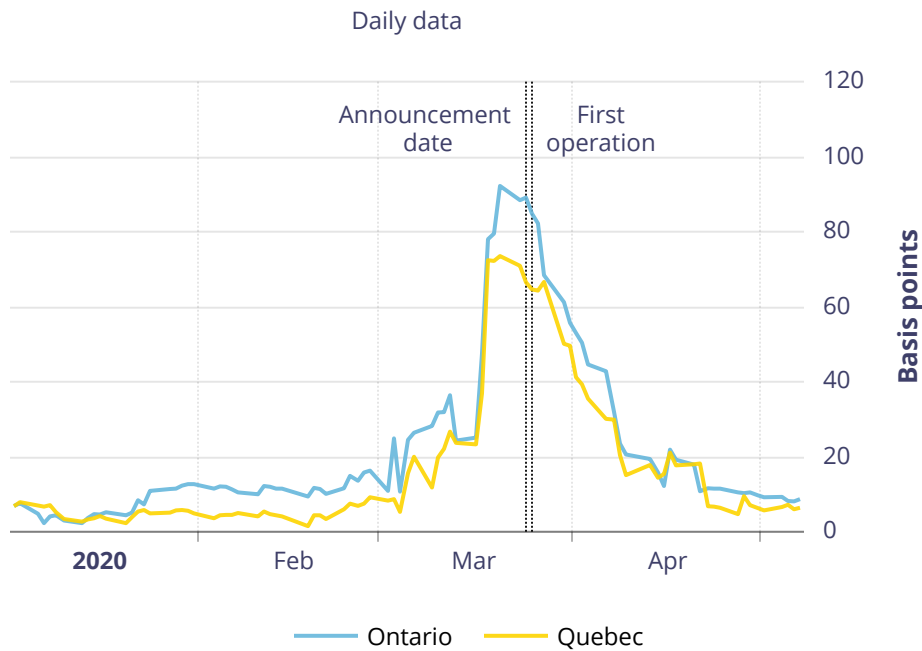


Source: Bank of Canada

Last observation: May 4, 2020

The Provincial Money Market Purchase Program (PMMP) and the Commercial Paper Purchase Program have also helped relieve pressure in the provincial treasury bill and commercial paper markets, respectively. Following the creation of the PMMP on March 24, primary issuances recovered, and the three-month treasury bill spreads for Ontario and Quebec have tightened by around 75 basis points from their peak in March (**Chart 3-C**).

**Chart 3-C: Spreads for provincial treasury bills tightened after Bank purchases**



Sources: Bloomberg Finance L.P. and Bank of Canada calculations

Last observation: May 7, 2020



## Box 4: Debt in the Canadian economy

Debt in the Canadian economy has increased over the past two decades (**Table 4-A**). The ratio of household debt to gross domestic product (GDP) is among the highest for advanced economies.<sup>30</sup> The debt of the non-financial business sector is well above its historical average in Canada, as it is in many advanced economies.<sup>31</sup> Government debt has been increasing since before the 2007–09 global financial crisis but is well below the average for advanced economies.<sup>32</sup>

**Table 4-A: Ratio of debt to GDP in the non-financial sector**

Date	Households	Non-financial corporations	Governments
2000Q1	0.58	0.52	0.81
2007Q3	0.76	0.47	0.59
2019Q4	1.00	0.68	0.83

Note: Debt includes data on debt securities and loans from Statistics Canada's "National Balance Sheet Accounts." Loans, advances and issues of debt between associated corporations are excluded. "Households" includes non-profit institutions. "Governments" includes federal, provincial, municipal and Indigenous governments.

Source: Statistics Canada

The distribution of this debt also matters in terms of how the loss in income will affect the financial system and the economy. The share of new residential mortgages with a loan-to-income ratio above 450 percent has fallen in the past few years but increased in 2019 to nearly 16 percent. Furthermore, despite a small improvement over the past year, there is a high amount of "debt at risk" among businesses—debt owed by businesses that have few liquid asset holdings and a poor capacity to service debt.<sup>33</sup> This debt at risk is mostly among firms in commodity-related sectors.



## Box 5: COVID-19 through the lens of historical events

Considerable uncertainty remains about the future course of COVID-19 and what it could mean for the economy. One possibility is that it will unfold in line with historical episodes of natural disasters. Wildfires, hurricanes and earthquakes can indeed lead to a shutdown of activity similar to what COVID-19 has produced. Natural disasters are typically followed by a quick rebound, although some longer-term scarring effects may endure. For instance, mortgage delinquencies increased sharply following the wildfires in Fort McMurray, Alberta.<sup>34</sup> Most of that increase dissipated quickly as disaster relief policies and insurance payouts kicked in, but the level of mortgage delinquencies remained persistently high.<sup>35</sup>

COVID-19 differs, however, from natural disasters in important ways. For example, natural disasters tend to be localized and pass relatively quickly, while COVID-19 has a global reach and has been very persistent.

The pandemic coincides with a period of elevated household and business indebtedness.<sup>36</sup> This had led to concerns that households and businesses could be particularly frugal when shutdowns are relaxed amid income losses and lingering uncertainty around when the virus will truly be under control.<sup>37</sup> In the Great Depression, sluggish spending was left unaddressed and led to large and persistent economic slack, expectations of falling prices and a vicious debt-deflation spiral. Deflation caused real debt burdens to rise, which further weighed on economic activity and price expectations. Falling asset prices and greater insolvencies also reduced the value of assets on bank balance sheets, leading to bank failures and tightened credit conditions. A credit crunch ensued, which lowered investment and consumption even further.<sup>38</sup>

Learning from the mistakes of the Great Depression, monetary, fiscal and macroprudential policy-makers are aggressively supporting economic activity and guarding against deflationary pressures. For example, the Bank of Canada cut interest rates and has made extensive use of its liquidity and asset purchase facilities to support key funding markets (**Box 3**). The Government of Canada introduced a significant fiscal package to mitigate income losses for households and businesses and preserve jobs for a more robust recovery. Greater regulatory flexibility, for example, through the release of the Domestic Stability Buffer, is providing financial institutions with more space to continue lending. There is room for these policies to expand with the pandemic's impact on the economy. This contrasts with the Great Depression, where the failure to avert shrinking money supply and the initial lack of fiscal stimulus are often cited as having exacerbated the shock, allowing it to spread into a decade-long depression.<sup>39, 40</sup>



## Box 6: Work on modern, safe and efficient payment systems continues

The pace of change in the payments sector continues to quicken as new technologies and business models create new opportunities and risks. This includes a general decline in the use of cash and a growth of new digital payment methods—originating from both inside and outside the traditional financial system.

A strong regulatory and policy framework is needed to manage these developments. For some time, regulatory authorities in Canada and around the globe have been engaged in addressing potential weaknesses or gaps in the current payments system and the regulatory environment for dealing with innovative new products, including cryptoassets and stablecoins. This work needs to be completed to ensure that if businesses and consumers use the new private sector options available to them, they can have the same confidence in their safety and security that they have always had in existing methods.

The required work includes:

- contributing to domestic and international work on stablecoin regulation through the Canadian Heads of Regulatory Agencies group and the Financial Stability Board (FSB)<sup>41</sup>
- updating Canada's core payment systems at both the wholesale and retail levels through Payments Canada's Modernization Program<sup>42</sup>
- implementing a retail payments oversight framework to introduce oversight of the financial and operational risk of payment service providers<sup>43</sup>
- contingency planning for a central bank digital currency, should the need to issue one arise<sup>44</sup>
- participating in working groups led by the FSB and Committee on Payments and Market Infrastructures to study ways authorities can contribute to improving cross-border payments<sup>45</sup>

COVID-19 has been a major shock to all aspects of the economy, including the payments sector. People have not only changed how they shop but, in some cases, they have also changed how they pay for goods and services. The pandemic may accelerate the trend toward less use of cash and more online payments. If a tipping point where cash becomes a less viable payment method is ever reached, it would place a high burden on those who have limited access to alternative payment options.<sup>46</sup> It is still too early to determine whether some of these changes will be permanent.

Research and work to improve the payments system must continue even as response to the pandemic proceeds. Progress may be delayed as authorities and industry focus on short-term priorities. But the goal of ensuring that Canada's payments system is modern, safe and efficient remains a priority.

## Endnotes

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This report includes data received up to May 7, 2020, except for Labour Force Survey data released on May 8, 2020.

### Footnotes

1. S. S. Poloz, “**Bridging Through the Downturn, Laying a Foundation for Recovery**,” *National Post*, April 17, 2020, and C. A. Wilkins, “**Bridge to Recovery: The Bank’s COVID-19 Pandemic Response**” (remarks to C.D. Howe Institute, Toronto, May 4, 2020).[←]
2. The Bank continues to analyze and conduct research on key financial system vulnerabilities that are not directly related to COVID-19. This includes work on climate change, fintech and cyber threats. Updates on these and other vulnerabilities will appear on the Bank’s **Financial System Hub** as they become available.[←]
3. See “**Box 3: Investment Strategies in a Low-Volatility Market Environment**,” Bank of Canada *Financial System Review* (November 2017): 14.[←]
4. See A. Schrimpf, H. S. Shin and V. Sushko, “Leverage and Margin Spirals in Fixed Income Markets During the COVID-19 Crisis,” BIS Bulletin No. 2, Bank for International Settlements (April 2020).[←]
5. See the Bank of Canada’s **Framework for Market Operations and Liquidity Provision**.[←]
6. A comprehensive list of measures announced by OSFI is available on its “**COVID-19: Updates**” webpage.[←]
7. OSFI announced on December 10, 2019, that the Domestic Stability Buffer would rise from 2 percent to 2.25 percent on April 30, 2020. Although the change never formally went into effect, it still affected banks’ capital planning because typically they must plan actions to modify their capital levels well in advance. All banks also hold a buffer of capital above the requirements to reduce the chance of breaching the required level.[←]
8. The Autorité des marchés financiers has taken similar actions for lenders regulated by Quebec.[←]
9. Data are from Statistics Canada’s “**Canadian Survey on Business Conditions: Impact of COVID-19 on businesses in Canada, March 2020**.” Between April 3 and 24, 12,600 Canadian businesses took part in the survey. Unlike most surveys conducted by Statistics Canada, it is based on visitors to its website. As a result, the findings are suggestive and may not be representative of Canadian businesses.[←]
10. See BDC, “**Is your business impacted by COVID-19?**” and EDC, “**COVID-19: Relief for your business**.”[←]
11. Some policy improvements by authorities and banks have reduced funding risks from brokered deposits, but vulnerabilities remain. See the 2019 Bank of Canada *Financial System Review*.[←]
12. For more details, see the BDC press release, “**BDC to increase support to Canadian oil and gas sector companies**.”[←]
13. Some recent sales did not close because prospective buyers have lost their incomes. For insured loans, mortgage insurers are encouraging lenders to allow the transactions to proceed.[←]
14. See Bloomberg Nanos Canadian Confidence Index and Real-Time Interactive World-wide Intelligence.[←]
15. Liquid assets are the sum of savings, tax-free savings accounts and non-registered investment accounts.[←]
16. For the full list of Government of Canada policies, see “**Canada’s COVID-19 Economic Response Plan**.” Provinces, territories and municipalities have implemented additional measures.[←]

17. See **“Chart 8: The share of debtors falling behind on payments is up slightly in oil-producing regions,”** Bank of Canada *Financial System Review*, May 2019.[←]
18. Data from Statistics Canada, “Canadian Survey on Business Conditions: Impact of COVID-19 on businesses in Canada, March 2020.”[←]
19. The deferral of sales tax remittance and customs duty payments, more time to pay income taxes and sector-specific policies will also help alleviate cash flow difficulties in the near term. See **“Canada’s COVID-19 Economic Response Plan.”**[←]
20. Distance to default is discussed in M. Kozak, M. Aaron and C. Gauthier, **“Using the Contingent Claims Approach to Assess Credit Risk in the Canadian Business Sector,”** Bank of Canada *Financial System Review* (June 2006): 43–51.[←]
21. This scenario analysis uses the Bank’s stress-testing tool discussed in C. MacDonald and V. Traclet, **“The Framework for Risk Identification and Assessment,”** Bank of Canada Technical Report No. 113 (November 2018). The tool was used in C. Gaa, X. Liu, C. MacDonald and X. Shen, **“Assessing the Resilience of the Canadian Banking System,”** Bank of Canada Staff Analytical Note No. 2019-16 (May 2019).[←]
22. The analysis uses the six banks designated as domestic systemically important banks by the Office of the Superintendent of Financial Institutions (Bank of Montreal, Bank of Nova Scotia, Canadian Imperial Bank of Commerce, National Bank of Canada, Royal Bank of Canada and Toronto-Dominion Bank).[←]
23. See R. Arora, G. Bédard-Pagé, G. Ouellet Leblanc and R. Shotlander, **“Could Canadian Bond Funds Add Stress to the Financial System?”** Bank of Canada Staff Analytical Note No. 2019-9 (April 2019). In the simulation, the increase in credit spreads along the credit curve is partly offset by the reduction of the policy rate by 150 basis points.[←]
24. See the Canadian Securities Administrators press release, **“Canadian Securities Regulators Temporarily Increase Short-Term Borrowing Limits for Mutual Funds Investing In Fixed Income,”** April 17, 2020.[←]
25. If redemptions had reached the level predicted by the model, around 70 percent of funds would likely have needed their entire cash buffers to meet redemptions.[←]
26. This assessment highlights the importance of sound liquidity management by investment funds, an area that has been the focus of the recent agenda for regulatory reform. In recent years, global and domestic authorities have strengthened regulatory guidance related to liquidity management, leverage and concentration limits. See, for example, Financial Stability Board, “Policy Recommendations to Address Structural Vulnerabilities from Asset Management Activities” (January 12, 2017). See also IOSCO, “Recommendations for Liquidity Risk Management for Collective Investment Schemes” (February 2018). In the Canadian context, an example of securities regulations can be found in “OSC Staff Notice 81-727 Report on Staff’s Continuous Disclosure Review of Mutual Fund Practices Relating to Portfolio Liquidity.”[←]
27. See **“Expert panel on sustainable finance.”**[←]
28. See M. K. Brunnermeier and L. H. Pedersen, “Market Liquidity and Funding Liquidity,” *The Review of Financial Studies* 22, no. 6 (2009): 2201–2238.[←]
29. See K. McRae and D. Auger, **“A Primer on the Canadian Bankers’ Acceptance Market,”** Bank of Canada Staff Discussion Paper No. 2018-6 (June 2008).[←]
30. International comparisons are available from the Bank for International Settlements, **“Credit to the non-financial sector.”**[←]
31. It is difficult to compare Canadian corporate debt measures with international measures calculated by the Bank for International Settlements because of methodological differences. For an explanation of these differences, see T. Grieder, D. Hogg and T. Duprey, **“Recent Evolution of Canada’s Credit-to-GDP Gap: Measurement and Interpretation,”** Bank of Canada Staff Analytical Note No. 2017-25 (December 2017).[←]
32. It is also useful to compare net government debt, which deducts financial assets from debt levels. According to data from the International Monetary Fund’s *Fiscal*

- Monitor*, the net Canadian general government debt level is 25.9 percent of GDP compared with 76.6 percent for all advanced economies.[←]
33. Debt at risk is discussed in T. Grieder and C. Schaffter, “**Measuring Non-Financial Corporate Sector Vulnerabilities in Canada**,” Bank of Canada Staff Analytical Note No. 2019-15 (May 2019).[←]
34. See O. Bilyk, A. Ho, M. Khan and G. Vallée, “Household Indebtedness Risks in the Wake of COVID-19,” Bank of Canada Staff Analytical Note (forthcoming).[←]
35. This is similar to evidence reported in B. Flowers, “The Economics of Natural Disasters,” Federal Reserve Bank of St. Louis *Page One Economics* (May 2018).[←]
36. See International Monetary Fund, *Global Financial Stability Report: Lower for Longer*, Box 5 (October 2019), and previous issues of the Bank of Canada *Financial System Review*.[←]
37. J. Nakajima, “The Role of Household Debt Heterogeneity on Consumption: Evidence from Japanese Household Data,” BIS Working Papers, No. 736 (July 2018). [←]
38. I. Fisher, “The Debt-Deflation Theory of Great Depressions,” *Econometrica* 1, no. 4 (October 1933): 337–357, and B. S. Bernanke, “The Macroeconomics of the Great Depression: A Comparative Approach,” *Journal of Money, Credit, and Banking* 27, no. 1 (February 1995): 1–28.[←]
39. M. Friedman and A. J. Schwartz, *A Monetary History of the United States, 1867–1960* (Princeton: Princeton University Press, 1963).[←]
40. During the Great Depression, Canada’s initial adherence to the gold standard limited its ability to expand the money supply and offset deflation from a global decline in commodity prices. See P. Amaral and J. MacGee, “The Great Depression in Canada and the United States: A Neoclassical Perspective,” *Review of Economic Dynamics* 5, no. 1 (January 2002): 45–72.[←]
41. See Box 1 in this FSR and Financial Stability Board, “**Addressing the regulatory, supervisory and oversight challenges raised by ‘global stablecoin’ arrangements: Consultative document**,” April 14, 2020.[←]
42. See Payments Canada, “**Payments Canada Modernization**.”[←]
43. In Budget 2019, the Government of Canada proposed implementing a new framework that would require payment service providers to establish sound operational risk management practices and to protect users’ funds against losses. The Bank of Canada would oversee compliance with these requirements. See Department of Finance Canada, *Report on the Review of the Canadian Payments Act* (2019).[←]
44. See T. Lane, “**Money and Payments in the Digital Age**” (speech to CFA Montreal FinTech RDV, Montréal, Quebec, February 25, 2020).[←]
45. See Financial Stability Board, “**Enhancing Cross-border Payments—Stage 1 Report to the G20**,” April 2020.[←]
46. See the Bank of Canada press release, “**Bank of Canada asks retailers to continue accepting cash**,” March 18, 2020.[←]