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BANK OF CANADA
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Announcing the Bankers' Acceptance Purchase Facility: a COVID-19 event study

Staff Analytical Note 2020-23 (English)

Rohan Arora, Sermin Gungor, Kaetlynd McRae, Jonathan Witmer

October 2020

Introduction

The bankers' acceptance (BA) market is one of Canada's core funding markets (Fontaine, Selody and Wilkins 2009). It serves as a key source of financing for small and medium-sized businesses that may not have direct access to public debt markets due to their size or credit rating (McRae and Auger 2018). With between Can\$90 billion and Can\$100 billion outstanding at the beginning of 2020, the BA market accounts for about 30 to 35 percent of the total domestic money market (Statistics Canada 2020). This makes BAs the largest privately issued money market instrument in Canada. Furthermore, the BA market is fundamentally linked to the Canadian Dollar Offered Rate, which serves as a reference rate for more than Can\$11 trillion derivative instruments (McRae and Auger 2018; Bank of Canada 2018).¹

The BA market is important to both the Canadian economy and the Canadian financial system. The Bank of Canada therefore acted quickly when the BA market showed signs of stress during the COVID-19 financial crisis (Bank of Canada 2020). On March 13, 2020, the Bank announced its intention to launch the Bankers' Acceptance Purchase Facility (BAPF) to support the continuous functioning of the BA market, which is key to an effective financial system.

We look at the impact of this announcement on BA yields in the secondary market. We find that:

- BA yields in the secondary market, expressed as spreads over the overnight index swap (OIS) rates, declined by about 15 basis points on March 13. This represents a sizable effect considering that BA yields, as spreads over OIS rates, averaged around 20 basis points before the COVID-19 crisis.
- Between March 13 and March 23, the Bank released additional key information about the BAPF. During this period, BA yields in the secondary market, as spreads over OIS rates, fell further. These BA yields dropped by 20 to

70 basis points relative to bank-sponsored asset-backed commercial paper (ABCPs) and senior deposit notes (SDNs), respectively, which are comparable instruments that are not eligible for purchase through the BAPF.



The Bankers' Acceptance Purchase Facility is discontinued effective October 26, 2020. Read the market notice.

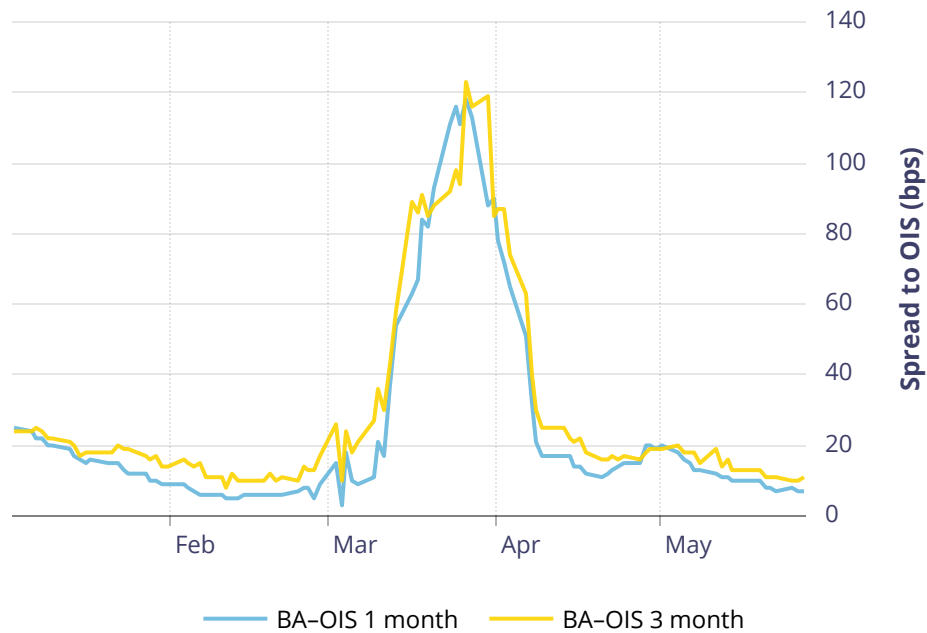
Secondary-market yields for BAs signalled the onset of stress

During the COVID-19 crisis, stresses emerged across the entire financial system, including in the BA market. We saw signs of stress in both prices and quantities of BAs.

Prices of BAs in the secondary market declined significantly. During the height of market stress, secondary-market yields on one-month and three-month BAs, expressed as spreads over corresponding OIS rates, rose fivefold, from 20 basis points to more than 100 basis points, when compared with corresponding OIS rates ([Chart 1](#)).²

In addition to the decline in prices, the range of traded yields (prices) for BAs in the secondary market increased during the COVID-19 crisis. On a normal day, BAs trade within a narrow yield range of 2 to 5 basis points. However, during the crisis, the daily range of traded yields nearly tripled to 15 basis points ([Chart 2](#)). The increase in the range could be a result of growing uncertainty about the price of BAs and investors' aggressive selling of BAs at any available price. It is noteworthy that the range of traded yields declined to near zero after the BAPF was introduced, pointing to a lower degree of price differentiation among BAs issued by different banks.

Chart 1: Secondary market BA yields as a spread to OIS widened during the COVID-19 crisis

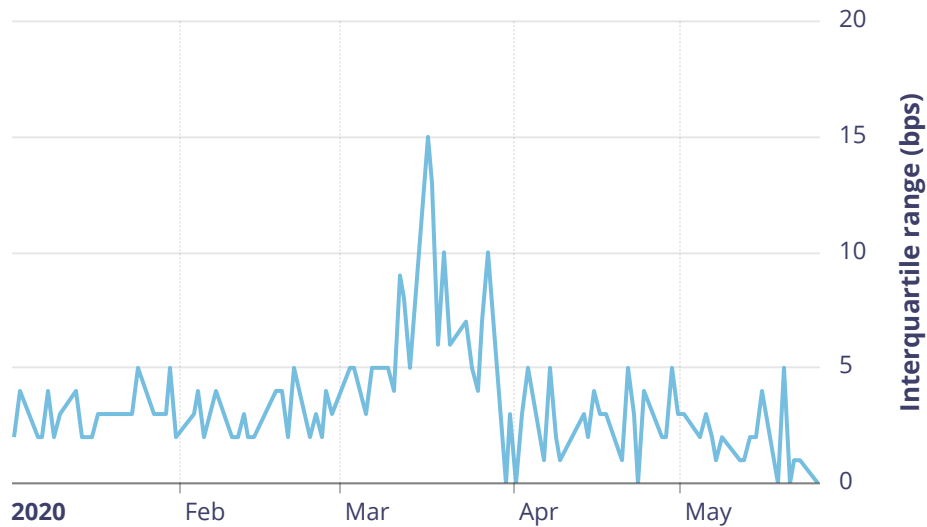


Sources: Investment Industry Regulatory Organization of Canada and Bank of Canada calculations

Note: BA means bankers' acceptances and OIS means overnight index swaps.

Last observation: May 27, 2020

Chart 2: Range of traded yields for bankers' acceptances rose to nearly 15 basis points at the height of market stress



Sources: Investment Industry Regulatory Organization of Canada and Bank of Canada calculations

Last observation: May 27, 2020

With respect to the quantity, the volume of BAs in the secondary market remained relatively unchanged. According to dealers, the volume of BAs was sustained in the secondary market because institutional investors aggressively sold BAs back to dealers in exchange for cash.³ These aggressive sales were then likely reflected in the secondary market as higher BA yields and an increased range of traded yields. Dealers also noted that primary market volumes for BAs increased as:

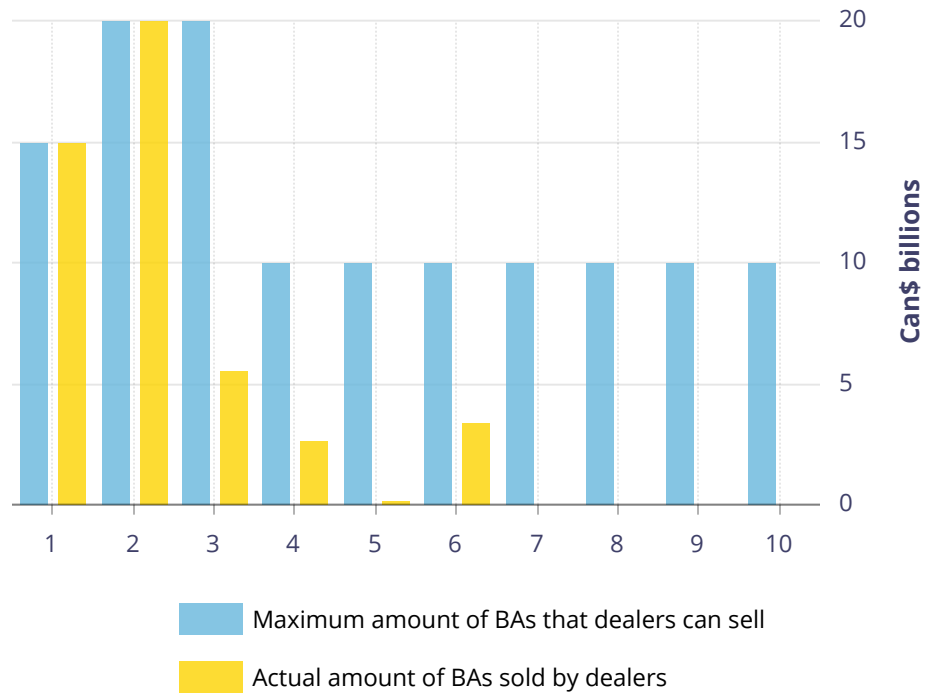
- large businesses drew on their BA facilities because they could no longer access funding in their preferred commercial paper market, and
- small businesses drew on their BA facilities to ensure they had enough cash on hand to meet short-term liabilities.⁴

The BAPF initially attracted high interest from dealers

Through the BAPF, the Bank purchased BAs to stabilize prices in the secondary market and in turn restore market functioning.

For each BAPF operation, the Bank provided dealers with a minimum purchase yield (maximum purchase price) and the maximum amount of BAs that the Bank would be willing to purchase.⁵ For the first two operations, the full capacity of the purchase facility was used: multiple dealers sold the maximum amount to the Bank ([Chart 3](#)). For these first two operations, dealers sold BAs to the Bank at yields nearly 80 basis points higher than the Bank's minimum yield—in other words, at prices markedly lower than the Bank's maximum price ([Chart 4](#)). These initial operations show that the BAPF was much needed at the time of its launch.

Chart 3: The first two operations saw dealers sell the maximum amount to the Bank

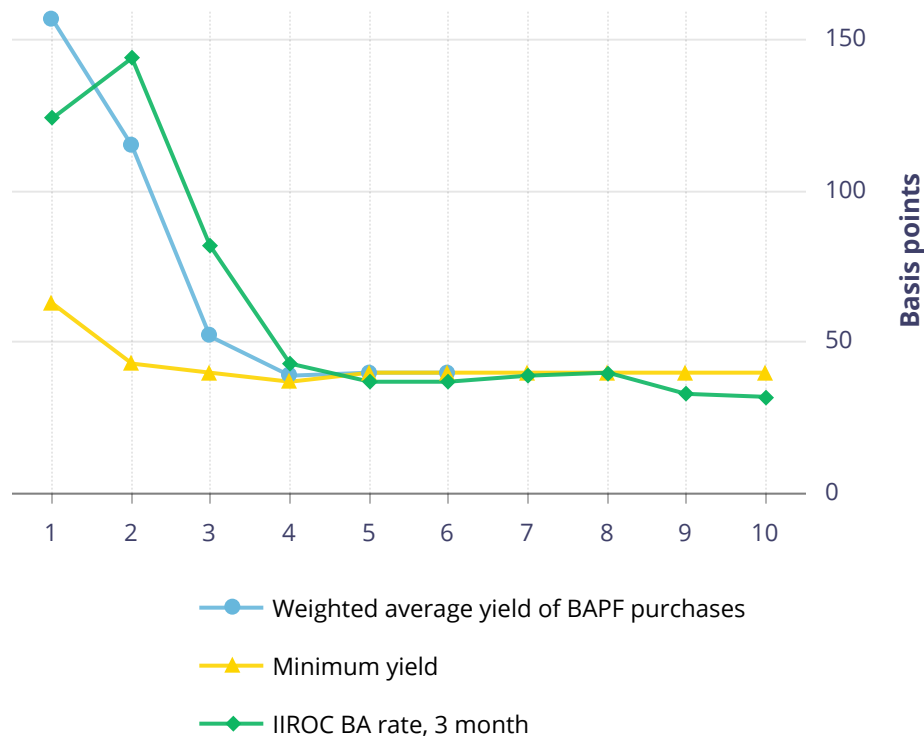


Source: Bank of Canada calculations

Note: BA means bankers' acceptances.

Last observation: March 25, 2020

**Chart 4: The first two operations saw dealers sell
BAs to the Bank at notably higher yields**



Sources: Investment Industry Regulatory Organization of Canada and Bank of Canada calculations

Note: The 3-month bankers' acceptance rate is from the Friday preceding the operation on the following Monday
Last observations: May 22, 2020, for BA rate and May 25, 2020, for rest

Subsequent operations saw a decline in dealer participation. This can potentially be explained by a general decline in market stresses when secondary market BA yields moved below the Bank's minimum purchase yield ([Chart 4](#)). Also, dealers noted that institutional investors were once again demanding BAs from dealers, reducing the need to sell BAs to the Bank through BAPF.

The announcement of BAPF reduced secondary-market yields

The Bank can affect BA yields in the secondary market through two main actions: the policy announcement and the asset purchases. Through the first action, the Bank's announcement might affect BA yields by influencing the behaviour of both investors and dealers. If investors and dealers believe that another large buyer will be coming to the market, yields will adjust in anticipation of this future demand for BAs. Through the second action, the Bank might affect BA yields when it purchases BAs by providing investors and dealers with a reference price point. This sets a price point for other BA transactions in the secondary market.

In this note, we focus on the announcement effect. To determine the impact of the BAPF announcement on BA yields, we use two analytical frameworks:

- within-the-day approach

- find-a-twin approach

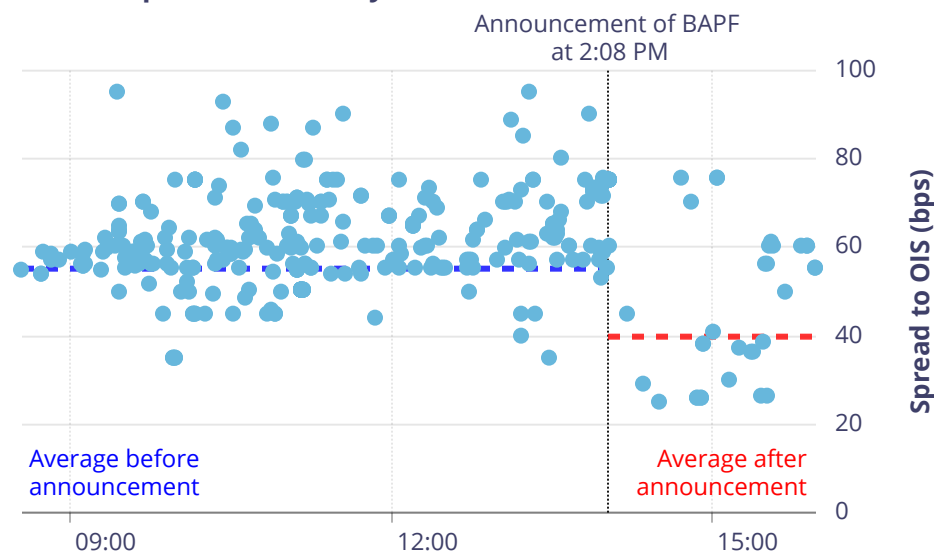
Within-the-day approach

As the name suggests, in the within-the-day approach, we focus on the BA market on the day of the initial BAPF announcement, March 13, 2020. Because the BAPF was announced at 2:08 p.m., we quantify the announcement effect by categorizing transactions on the secondary market as either pre-announcement or post-announcement. We then compare the average yield between these categories to arrive at an estimate of the announcement effect.⁶

In **Chart 5**, each blue circle represents the yield over OIS spread of a transaction in the secondary market for BAs. Before the announcement, shown by the grey vertical line, BAs traded at an average spread to OIS of nearly 55 basis points—the blue dotted line. However, after the announcement, the average spread declined to nearly 40 basis points—the red dotted line. The difference between the two horizontal dotted lines measures the initial announcement effect.

Therefore, the within-the-day approach suggests that BA yields declined by approximately 15 basis points at the initial BAPF announcement (**Chart 5**).

Chart 5: The within-the-day approach suggests that BAPF reduced BA yields by about 15 basis points on the day of the announcement



Sources: Market Trade Reporting System 2.0 Data and Bank of Canada calculations

Note: BAPF means Bankers' Acceptance Purchase Facility and BA means bankers' acceptances.

The announcement on March 13 was a joint announcement of BAPF and an interest rate cut of 50 basis points. We control for the effect of the rate cut announcement using the yield spread between the bankers' acceptances and the overnight index swaps instead of the BA yield levels.

Last observation: March 13, 2020

Find-a-twin approach

The Bank continued to provide more details about the facility between March 13 and March 23, the day of the first operation. Therefore, the within-the-day approach might not capture the entire announcement effect associated with the BAPF. To measure the cumulative effect of these announcements, we turn to the find-a-twin approach.⁷

This approach is an econometric technique formally called difference in differences. This technique compares two similar groups where one group is subjected to some treatment, and the other group is not. For a similar analogy, consider a pair of identical twins who both suffer from migraines. They share the same genetic code. We could therefore see the effect of a new anti-migraine pill across the twins if one of them takes the medication, but the other does not. The strength of this approach relies on finding a close substitute, or twin, and measuring differences between them after one of them has taken the medication.

For our analysis, we identify two types of financial instruments that can almost be considered twins of BAs:

- SDNs issued by Canadian banks and with less than six months remaining to maturity⁸
- ABCPs

Through the BAPF, the Bank purchases BAs (treated) but not SDNs or ABCPs (non-treated).⁹ This find-a-twin approach implicitly assumes that any difference in yields between SDNs and BAs and between ABCPs and BAs during the COVID-19 crisis can be attributed to the announcement of the BAPF and not to any differences in the characteristics of the securities.¹⁰

Chart 6 represents volume-weighted secondary-market yields for BAs (blue line), SDNs (yellow line) and ABCPs (green line), all expressed as spreads over OIS rates. Note that for all of January and most of February, before the onset of the crisis, SDN and ABCP yields were similar to those of BAs. This reinforces their use as close substitutes, or twins, for BAs.

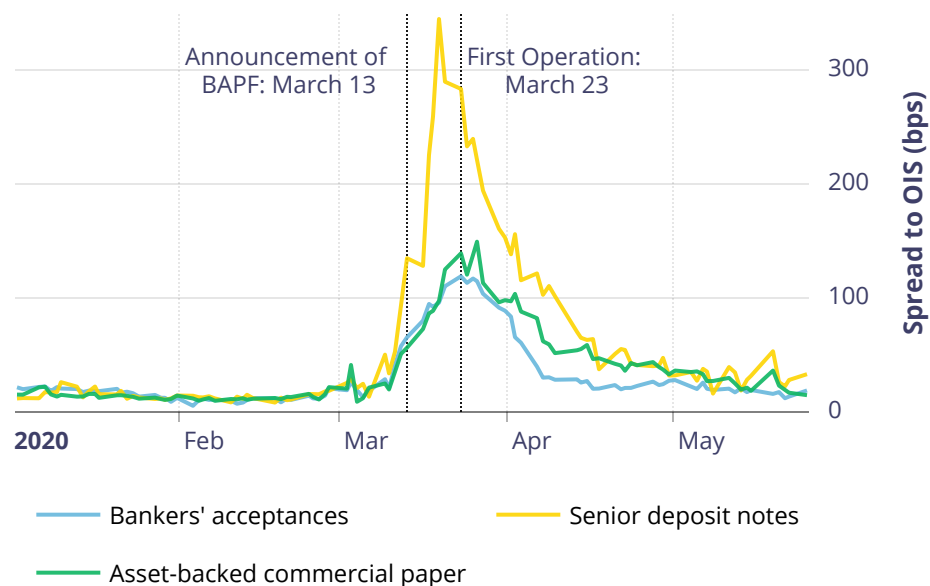
To measure the announcement effect, we first focus on the time window between March 13 and March 23, when we see a marked divergence in spreads of SDNs, ABCPs and BAs. Second, within this time frame, we measure the differences between:

- spreads of ABCPs and those of BAs, and
- spreads of SDNs and those of BAs.

Finally, we measure the change in these differences around all announcement days to estimate the cumulative announcement effect relative to ABCPs and SDNs as benchmarks. **Chart 6** shows that this approach corresponds to measuring how much spreads for BAs dampened between the first announcement (March 13) and the first operation (March 23) compared with the increase in spreads for ABCPs and for SDNs over the same period.

The find-a-twin approach therefore suggests that the announcement of BAPF reduced BA yields by 20 and 70 basis points relative to ABCPs and SDNs, respectively (**Chart 6**).¹¹

Chart 6: Between the announcement of the facility and the first operation, the Bankers' Acceptance Purchase Facility reduced bankers' acceptance yields between 20 and 70 basis points depending on the instrument of comparison



Sources: Market Trade Reporting System 2.0 and Bank of Canada calculations

Last observation: May 20, 2020

Conclusion

We find that when the BAPF was initially announced, BA yields on the secondary market declined by around 15 basis points. Furthermore, as the Bank released more information about the BAPF, BA yields on the secondary market declined cumulatively by 20 and 70 basis points when compared with bank-sponsored ABCPs and SDNs, respectively.

Appendix

A.1.1: Within-the-day approach

In the within-the-day approach, we identify trades after the announcement through a dummy variable that takes on a value of 1 when the trade happens after the announcement and 0 otherwise. The regression framework and the corresponding result are as follows:

$$r_{BA_{i,t}} - r_{OIS_{i,t}} = \alpha + \beta_0 \times \mathbb{1}_{announcement_{i,t}} + \varepsilon_{i,t}$$

Variables	$(r_{BA_t} - OIS_t)$
α	61.7*** (0.6)
β_0	-15.4*** (3.0)
Observations	346
Adjusted $-R^2$	0.01272

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

A.2.1: Table outlining similarities and differences

This table outlines the similarities and differences between senior deposit notes and bankers' acceptances as well as between asset-backed commercial paper and bankers' acceptances.

Characteristics	Bankers' acceptances (BAs) compared with senior deposit notes (SDNs)	BAs compared with asset-backed commercial paper (ABCPs)
Issuer characteristics	Both are primarily issued by major Canadian banks.	Both are primarily issued by major Canadian banks.
Credit quality	Both are debt instruments that are not collateralized against assets (unsecured lending).	BAs are not collateralized against assets; however, ABCP, as the name suggests, are backed by a group of assets that can be foreclosed in the case of default. There is no explicit way of controlling for this discrepancy between the two instruments.
Maturity	BAs are short-term debt instruments that mature within one year. Most BAs have a maturity of three months or less. SDNs tend to have a longer maturity, between three and five years. To minimize this difference, we focused our comparison on BAs and SDNs that had a remaining maturity of six months or less.	Both are short-term debt instruments with maturities at issuance within a year.
Investor base	BAs are a money-market instrument and attract a different investor base than SDNs, which are longer-term coupon-paying instruments. Therefore, the types of investors trading these products could be dissimilar. There is no explicit way to control for this discrepancy.	ABCPs and BAs are both money-market instruments. The difference in the investor base for the two instruments are therefore expected to be minimal.

A.2.2: Find-a-twin approach

In the find-a-twin approach, we first calculate daily volume-weighted secondary-market yields for BAs, SDNs and ABCPs for each bank. We then identify key announcement dates for the BAPF, which was announced on March 13 and performed its first operation on March 23. Between those two dates, the Bank announced key details about operation size, pricing and eligibility of securities under the BAPF. We identify four such dates:

- March 13 – [Announcement of BAPF](#)
- March 17 – [Information with respect to purchase size, pricing and eligible securities](#)
- March 19 – [Information with respect to bidding limits, and increase in purchase size to Can\\$15 billion](#)
- March 23 – [Increase in purchase size to Can\\$20 billion](#)

For each of these dates, we establish a two-day window (the day of the announcement and the day after) and create a dummy variable identifying whether the volume-weighted rates were within this two-day window or not. We then take the change in these rates expressed as spreads to OIS and insert them into the regression frameworks shown below.

$$\Delta[(r_{BA_{i,t}} - OIS_t) - (r_{SDN_{i,t}} - OIS_t)] = \alpha + \beta_1 \times \mathbb{I}_{(2-day)} + \mu_i + \varepsilon_{it}$$

$$\Delta[(r_{BA_{i,t}} - OIS_t) - (r_{ABCP_{i,t}} - OIS_t)] = \alpha + \beta_1 \times \mathbb{I}_{(2-day)} + \mu_i + \varepsilon_{it}$$

Variables	$\Delta[(r_{BA_{i,t}} - OIS_t) - (r_{SDN_{i,t}} - OIS_t)]$	$\Delta[(r_{BA_{i,t}} - OIS_t) -$	
β_1	-72.3*** (20.4)	-72.3*** (20.4)	-17.0 (8.0)
α	0.102 (0.20)	0.486 (0.30)	0.375* (0.10)
Observations	561	561	47
Adjusted - R^2	0.006	0.006	0.00
Bank fixed effects	Yes	No	Yes

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Note: For ease of presentation, the β_1 coefficient has been rescaled (multiplied by eight) to represent the cumulative impact across the four two-day event windows, rather than the average impact on a day within these event windows if it were not rescaled.

Endnotes

Footnotes

1. The Canadian Dollar Offered Rate (CDOR) represents the rate at which a commercial bank would be willing to lend funds to a business with a pre-existing BA facility. Therefore, CDOR influences, and is influenced by, BA yields in the secondary market.[\[↩\]](#)
2. For debt instruments such as BAs, prices and yields are inversely related. Therefore, a decline in prices results in an increase in yields, as shown in Chart 1.[\[↩\]](#)
3. Using data from the Market Trade Reporting System (MTRS) 2.0, we estimate that dealers purchased an additional Can\$1 billion to Can\$2 billion from institutional investors at the beginning of March 2020. For context, the historical average daily trading volume for the BA market is between Can\$10 billion to Can\$15 billion. Therefore, dealers bought an additional 5 to 10 percent above the average daily trading volume.[\[↩\]](#)
4. See the market commentary reports from Canadian Imperial Bank of Commerce (2020), Toronto-Dominion Bank (2020) and Royal Bank of Canada (2020).[\[↩\]](#)
5. The operations are conducted through a multiple-rate competitive reverse auction. At the time of writing, the minimum rate for operations is the three-month OIS rate and a spread determined by the Bank.[\[↩\]](#)
6. See section A.1.1 in the Appendix for regression results.[\[↩\]](#)
7. The announcements between March 13 and March 23 are either after market hours or in proximity to market close, making the within-in-the day approach for these days infeasible.[\[↩\]](#)
8. We considered bearer deposit notes as a potential twin; however, insufficient trading data exist for the days of interest to perform an analysis compared with BAs.[\[↩\]](#)

9. The Bank extended its purchases to the commercial paper market through the Commercial Paper Purchase Program (CPPP), which was announced on March 27, 2020. ABCPs are eligible under the CPPP.[\[↩\]](#)
10. See section A.2.1 in the Appendix for a table outlining the similarities and differences between SDNs and BAs and between ABCPs and BAs.[\[↩\]](#)
11. See section A.2.2 in the Appendix for regression results.[\[↩\]](#)

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Acknowledgments

We thank Danny Auger, Don Coletti, Tamara Gomes, Toni Gravelle, Cars Hommes, Grahame Johnson, Philippe Muller, Virginie Traclet, Andreas Uthemann and Sabrina Wu for helpful comments and suggestions. Finally, we are grateful to Nicole van de Wolfshaar and Carole Hubbard for editorial assistance and to Denis Clairand for translation into French.

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