

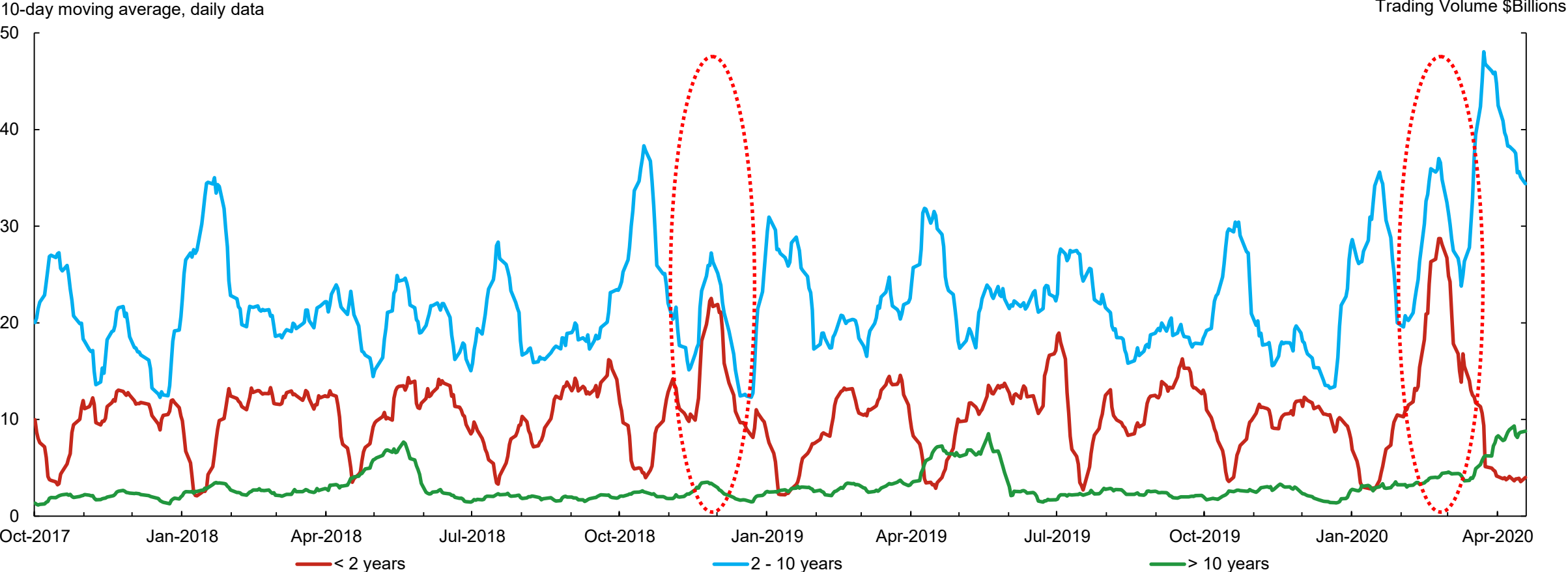


Liquidity Conditions in Canadian Fixed-Income Markets During the Covid-19 Shock

May 13th, 2020

GoC trading volumes increased for all maturities

The rise in trading volumes was most noticeable in shorter dated bonds



Sources: MTRS 2.0 and Bank of Canada calculations

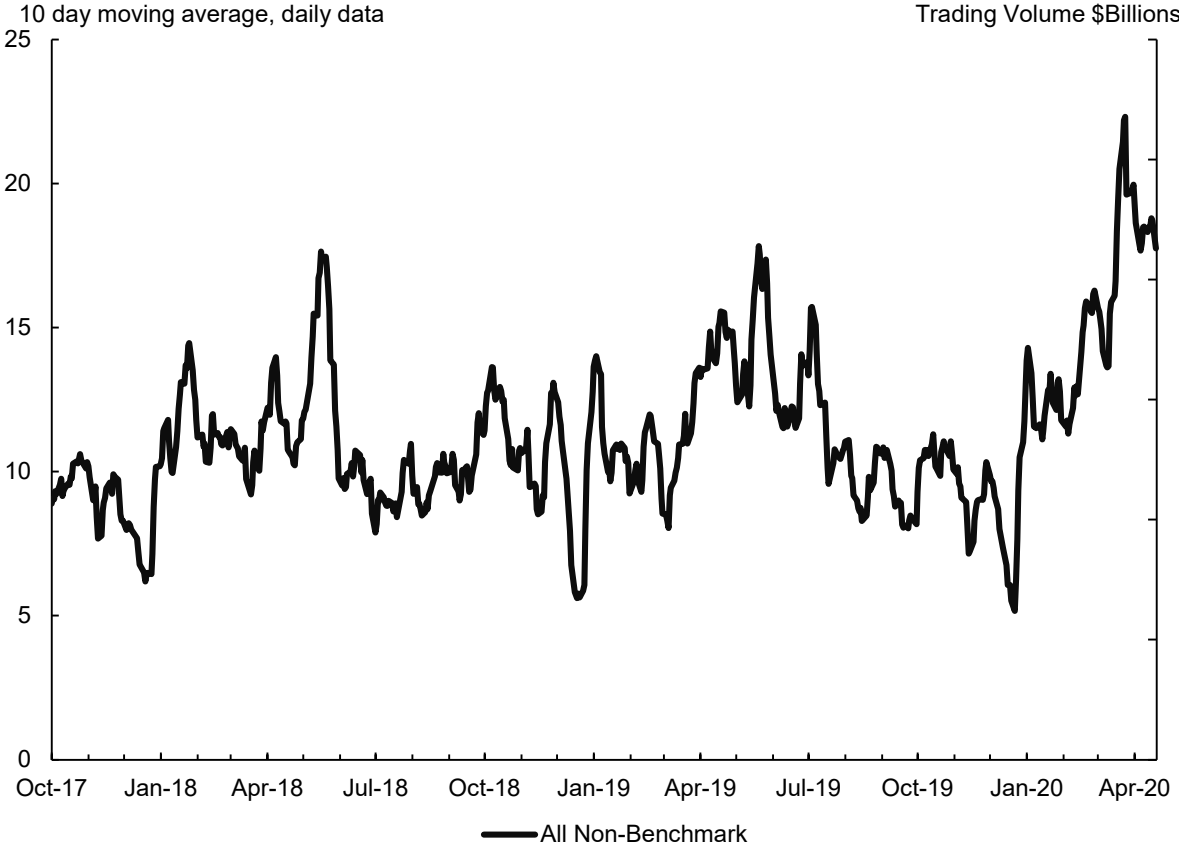
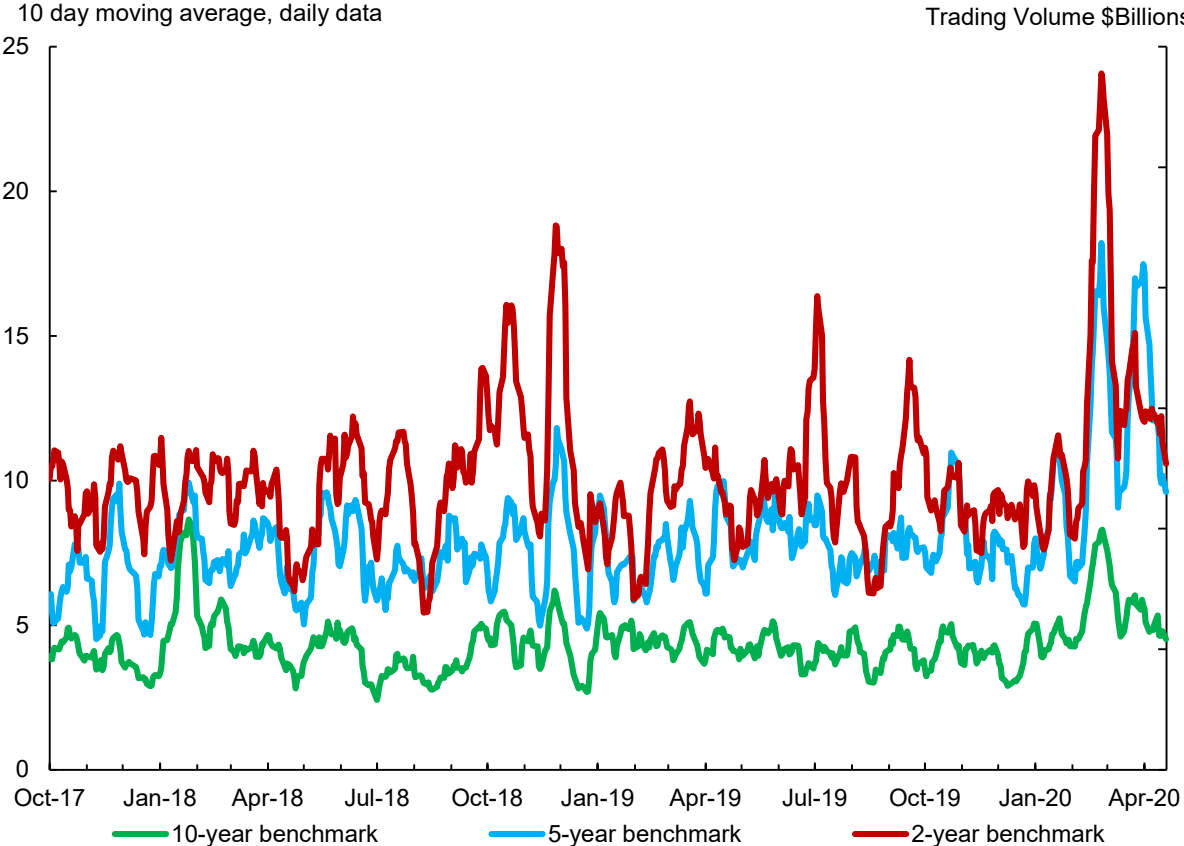
Last observation: May 4, 2020



Both benchmark & non-benchmark GoC trading volumes rose

Increase in trading-volume was most noticeable for 2- and 5-year benchmarks

Non-benchmark GoC volumes rose past recent records



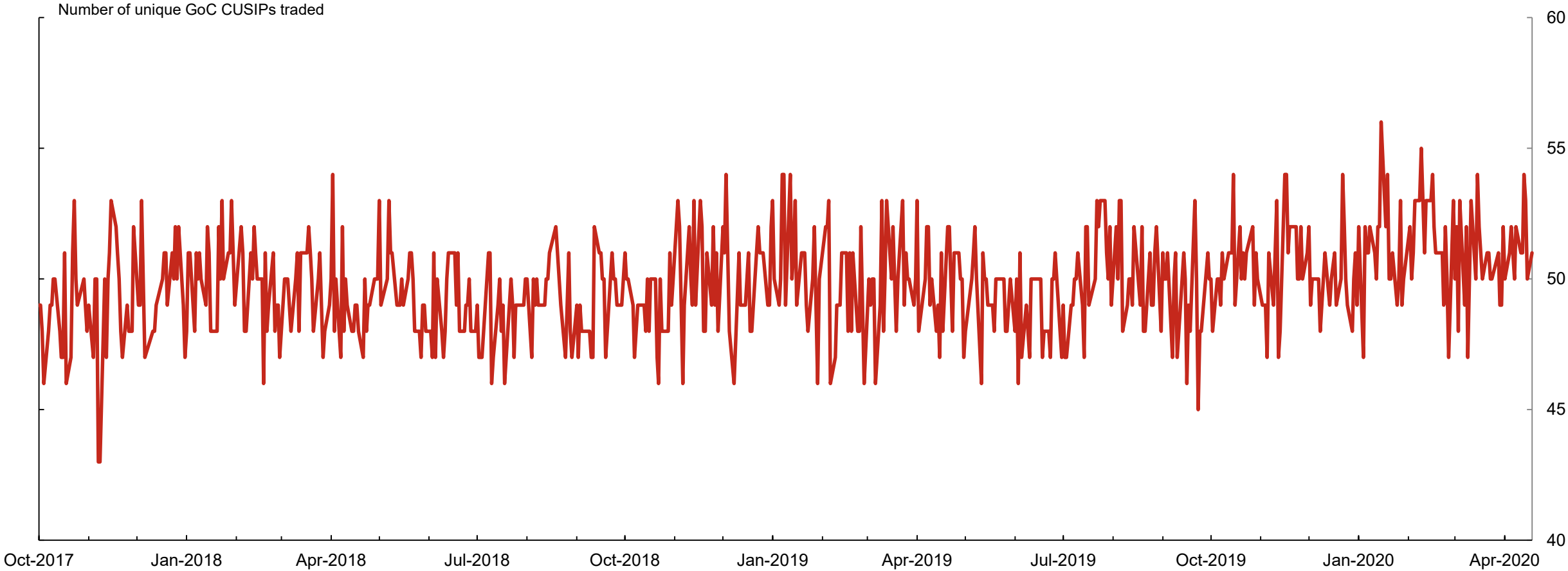
Source: MTRS 2.0 and Bank of Canada calculations

Last observation: 4th May 2020



The increase in trading volume did not change trading concentration

As trading volumes increased, the count of unique CUSIPs traded each day did not change significantly



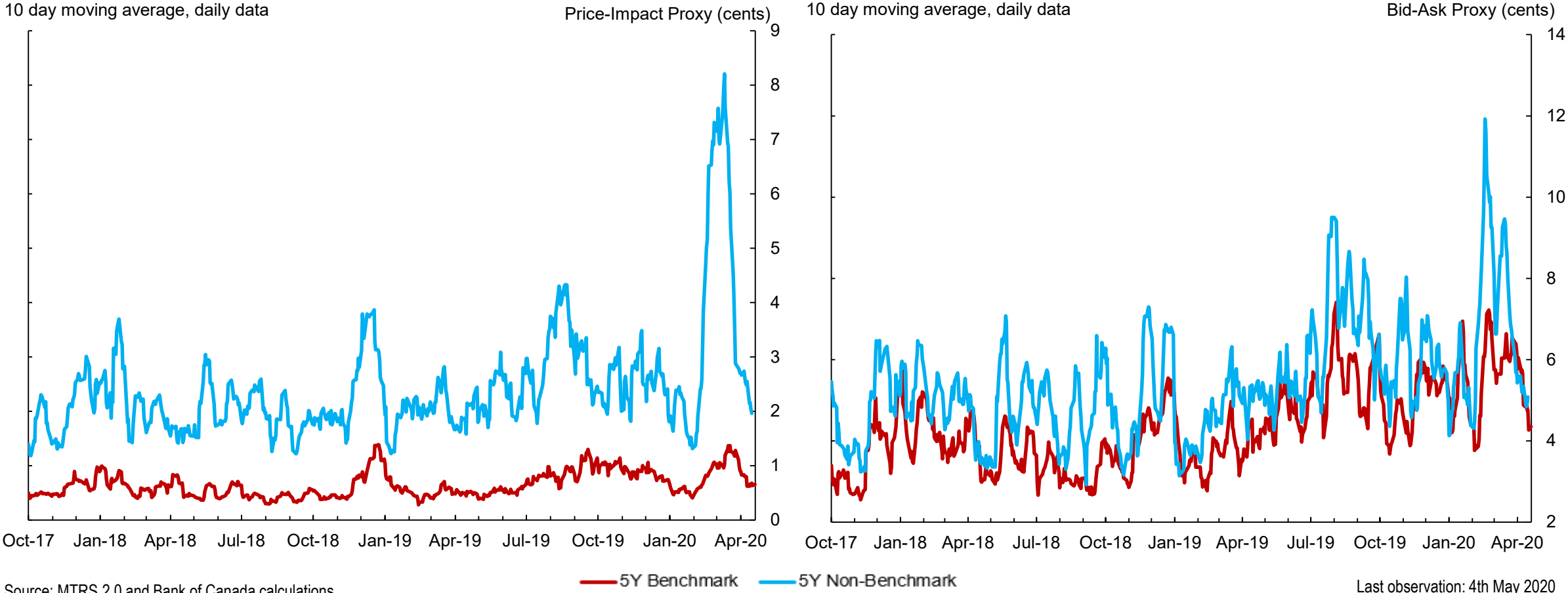
Source: MTRS 2.0 and Bank of Canada calculations

Last observation: May 04, 2020



As GoC trading volumes increased, so did the cost of liquidity

Price-impact and round-trip transaction costs increased for both benchmark and non-benchmark GoCs during March



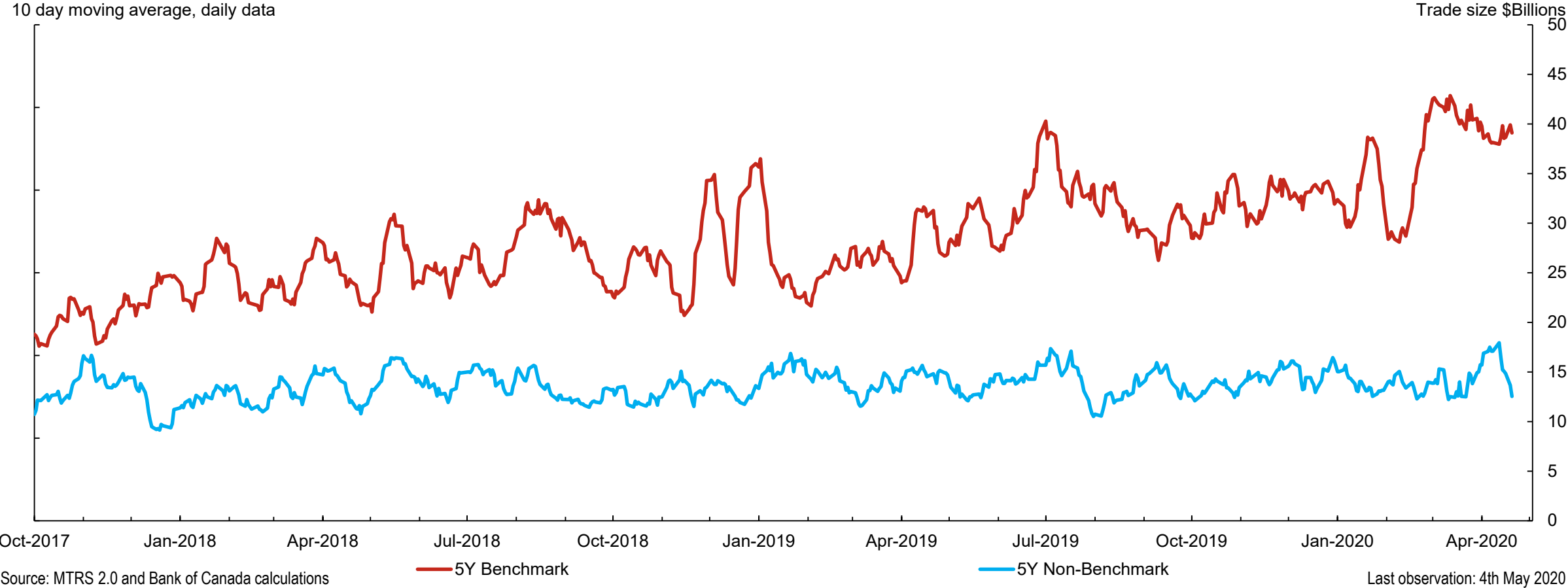
Source: MTRS 2.0 and Bank of Canada calculations

Last observation: 4th May 2020



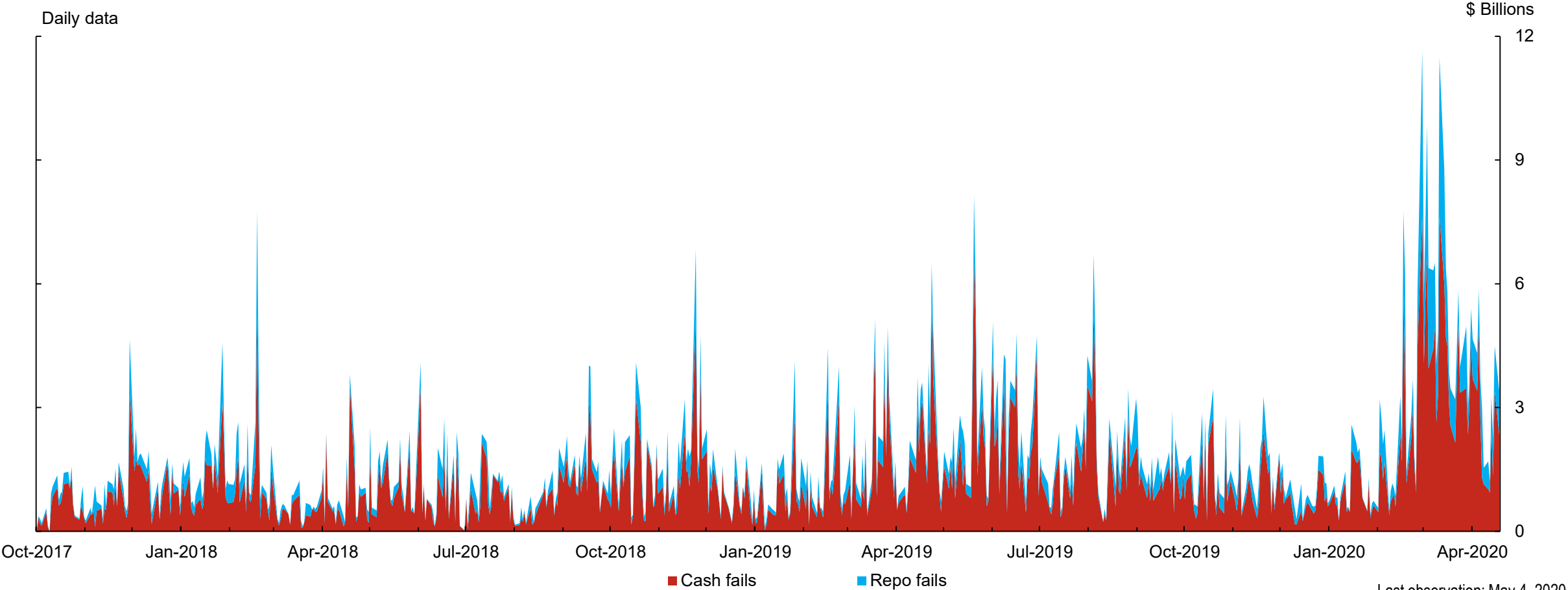
While GoC market liquidity declined, trade sizes were unaffected

While aggregate market liquidity for GoCs declined, trade-sizes for benchmark and non-benchmark GoCs were within historical estimates



Cash and repo fails in GoCs shot up as trading volumes increased

Cash and repo market fails in the aggregate GoC market peaked at a total of ~ \$11 Billion



Source: Canadian Depository for Securities, Bank of Canada calculations

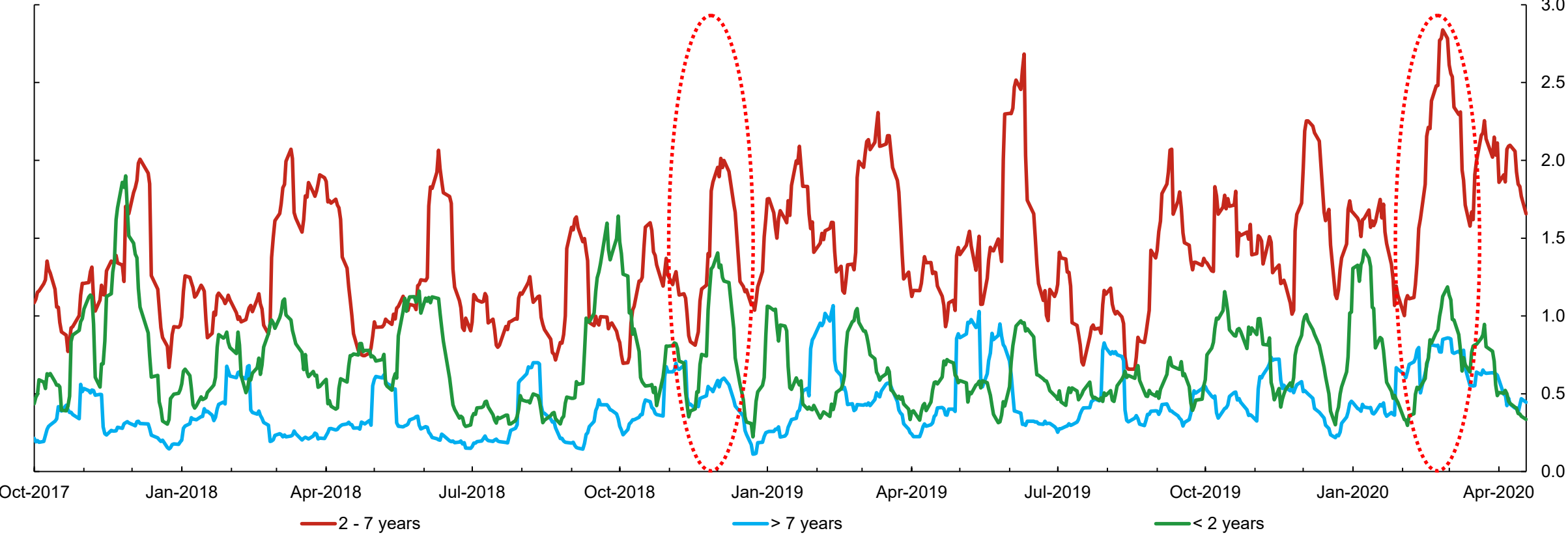


Similar to GoCs, trading volumes for CMBs increased

Trading volumes for Canada Mortgage Bonds increased with jumps concentrated in the 2-7 years maturity sector

10-day moving average, daily data

Trading Volume \$ Billions



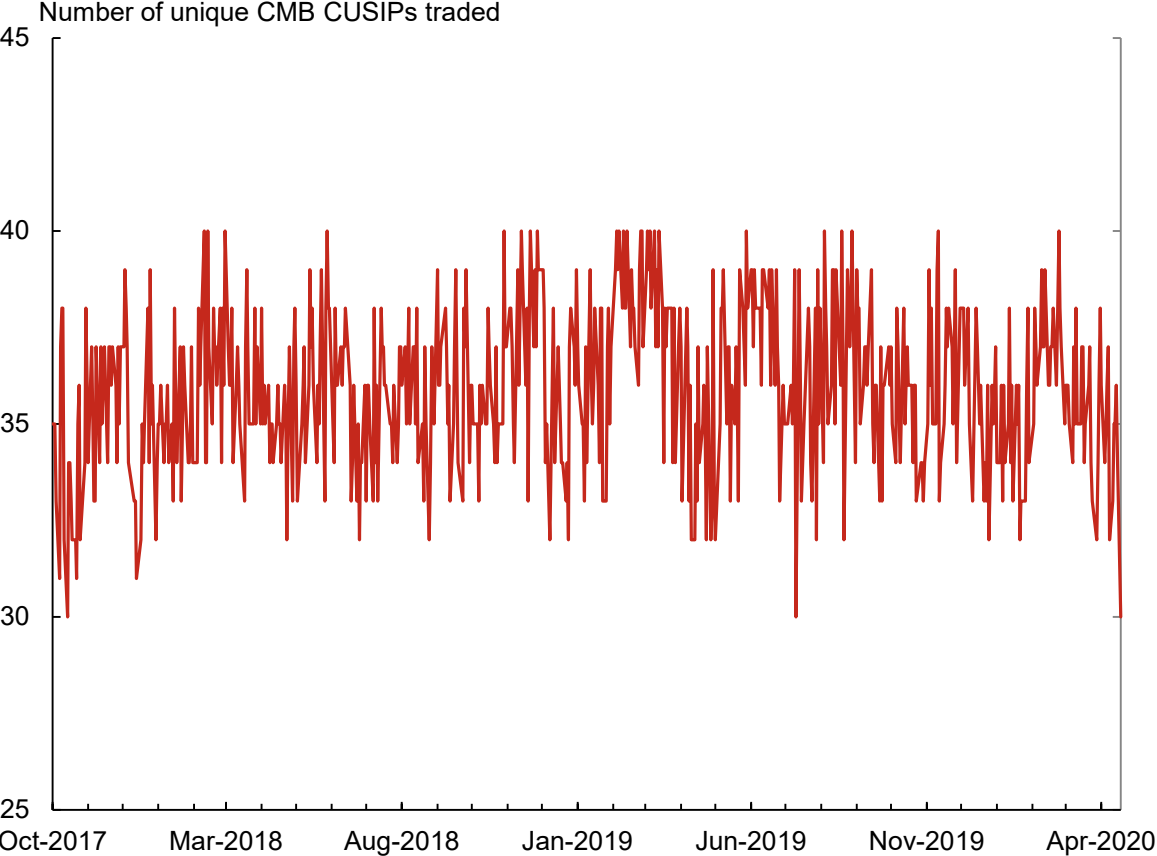
Sources: MTRS 2.0 and Bank of Canada calculations

Last observation: May 4, 2020

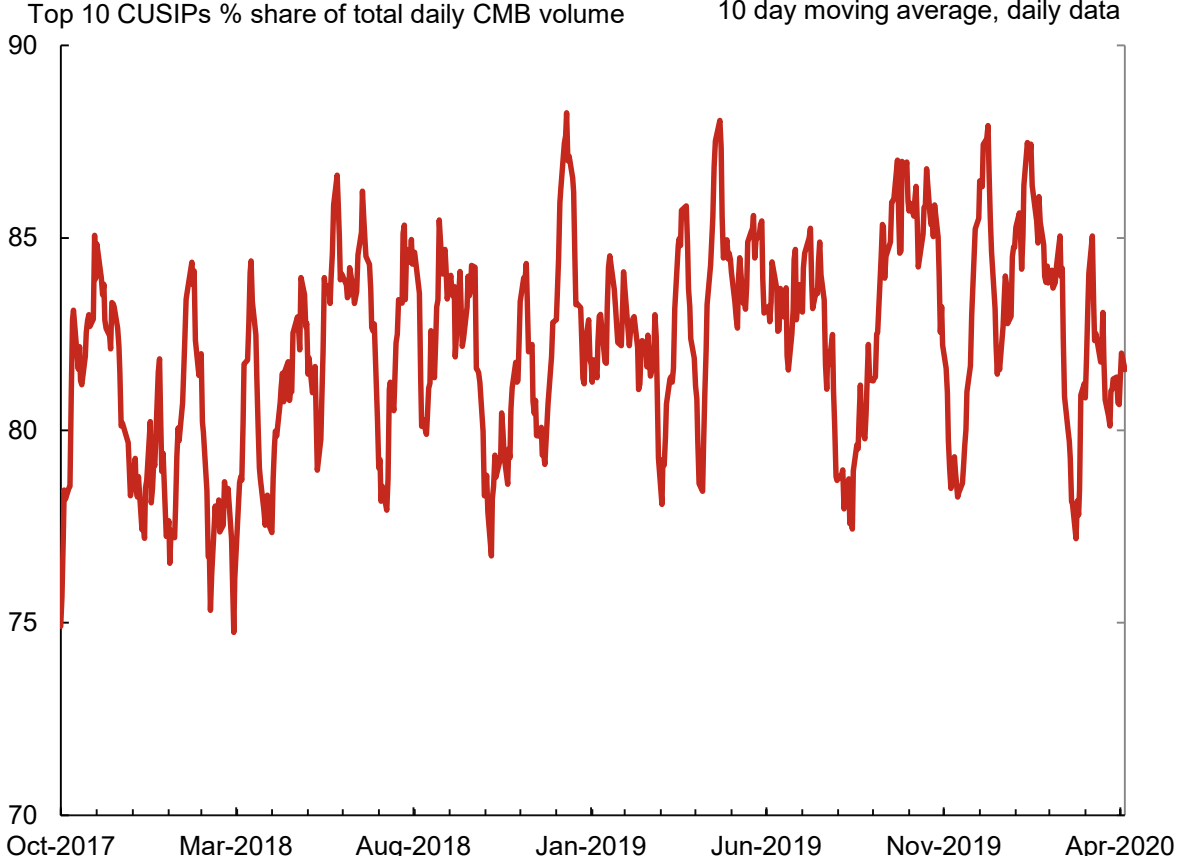


Changes in trading volumes for CMBs did not alter trade concentrations

Even as trading volumes changed, the number of unique CUSIPs traded and the volume share of top 10 CMB CUSIPs did not markedly shift



Source: MTRS 2.0 and Bank of Canada Calculations

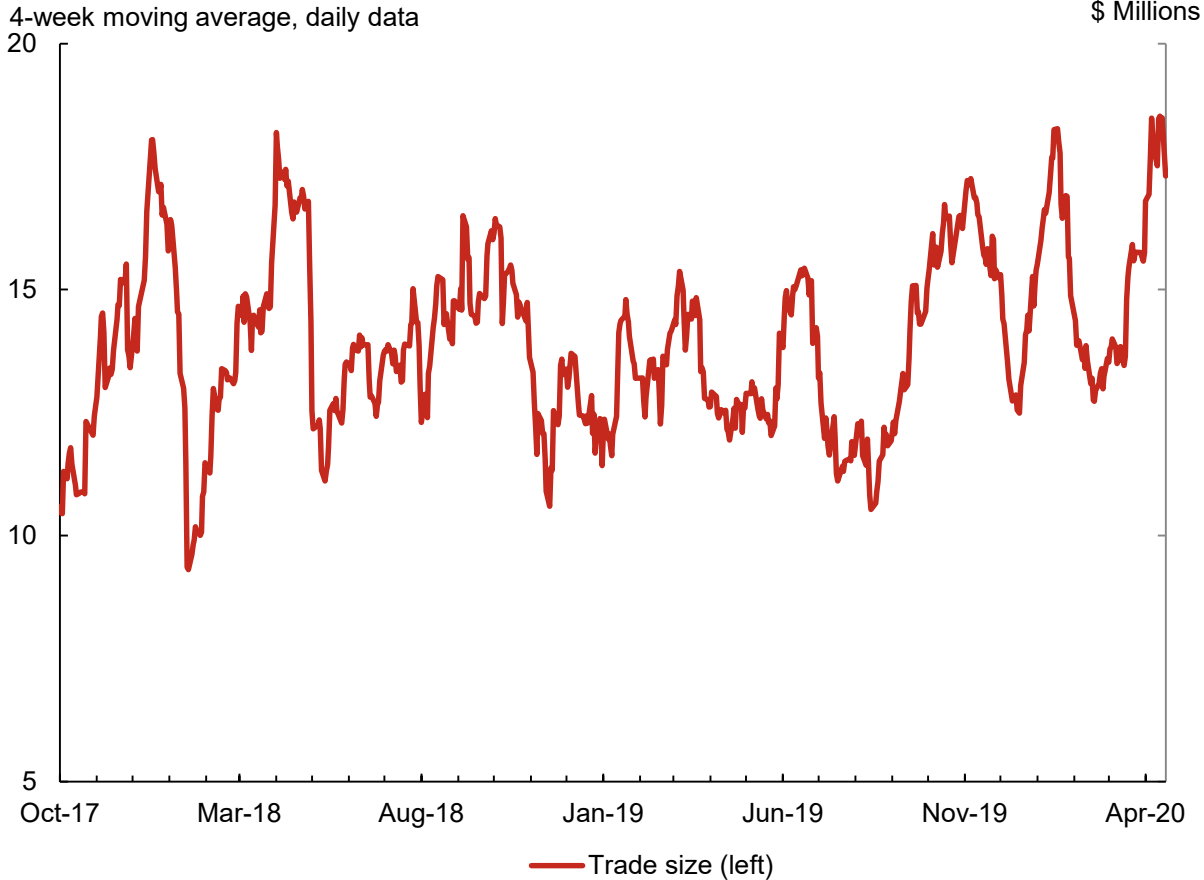
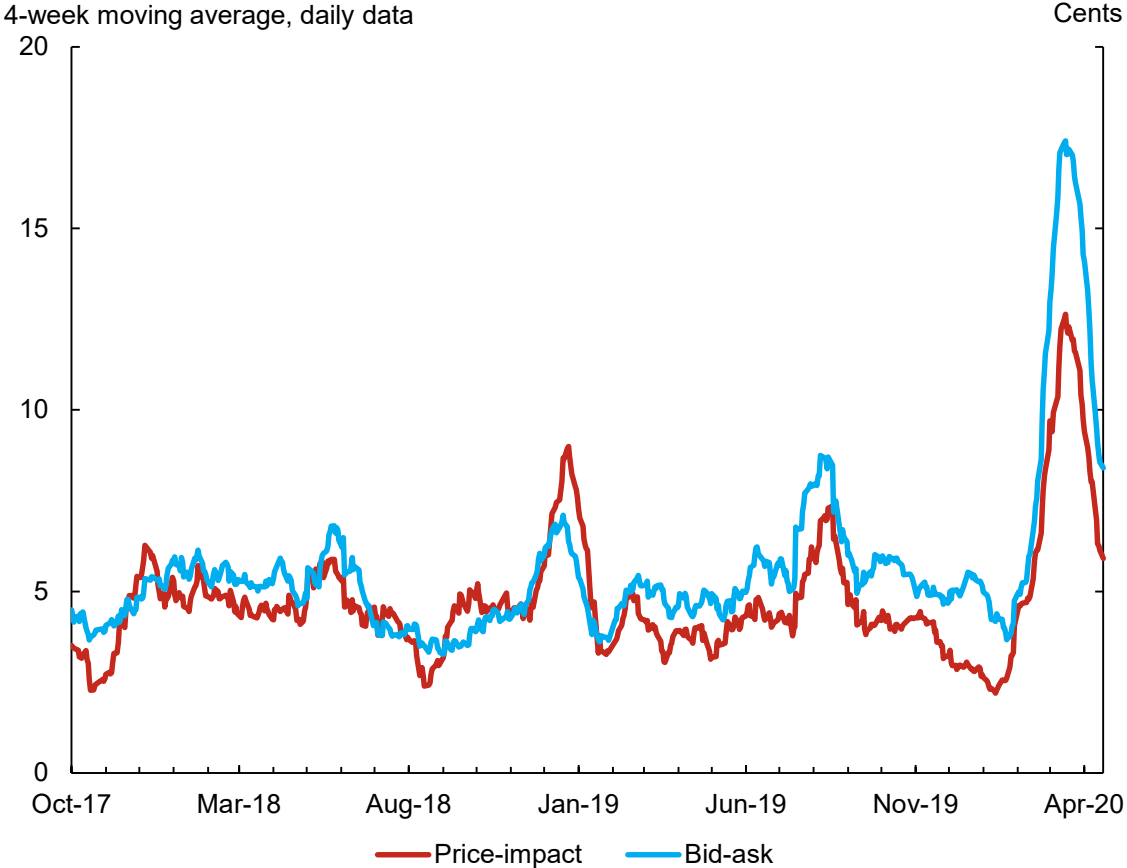


Last observation: May 04, 2020



The cost of liquidity also increased for CMBs

Liquidity in the CMB market declined sharply along price dimensions such as price-impact and bid-ask, while trade-size remained within historical bounds



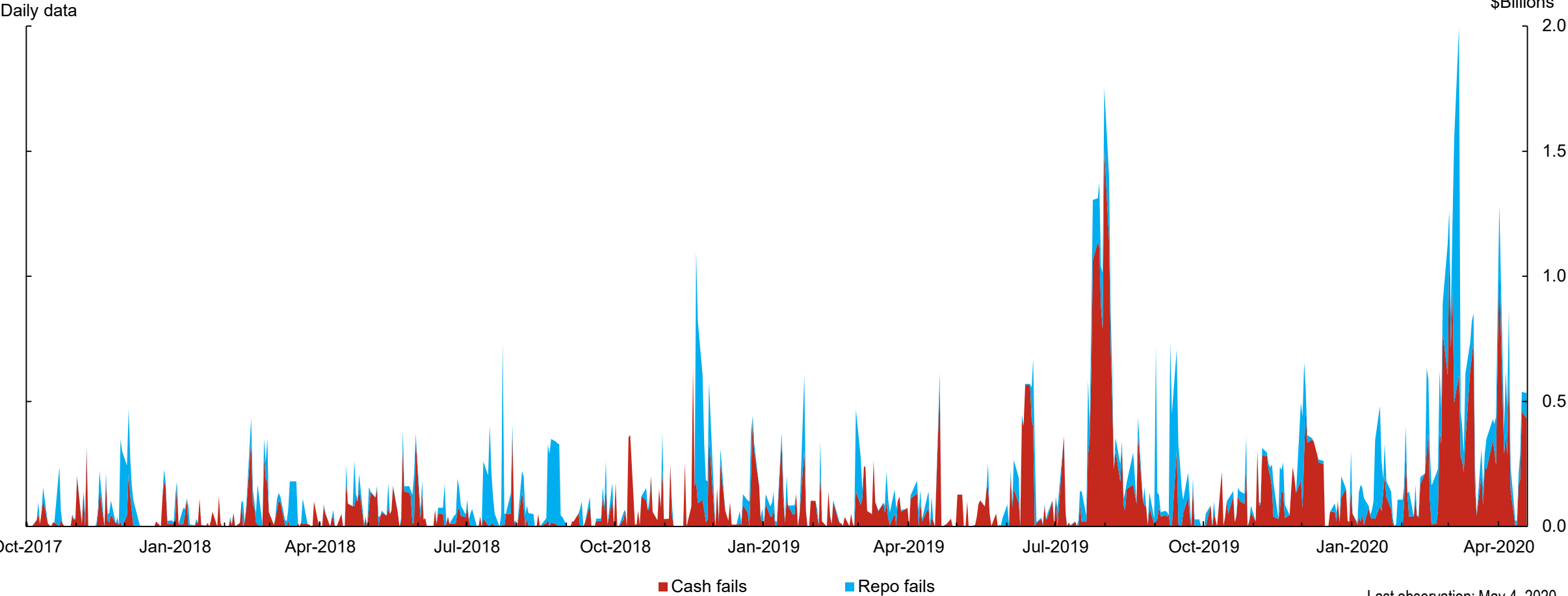
Sources: Canadian Depository for Securities and Bank of Canada calculations

Last observation: May 4, 2020



Repo fails accounted for the majority of settlement fails in the CMB market

Similar to the GoC market as market stresses compounded, cash and repo fails increased in the CMB market



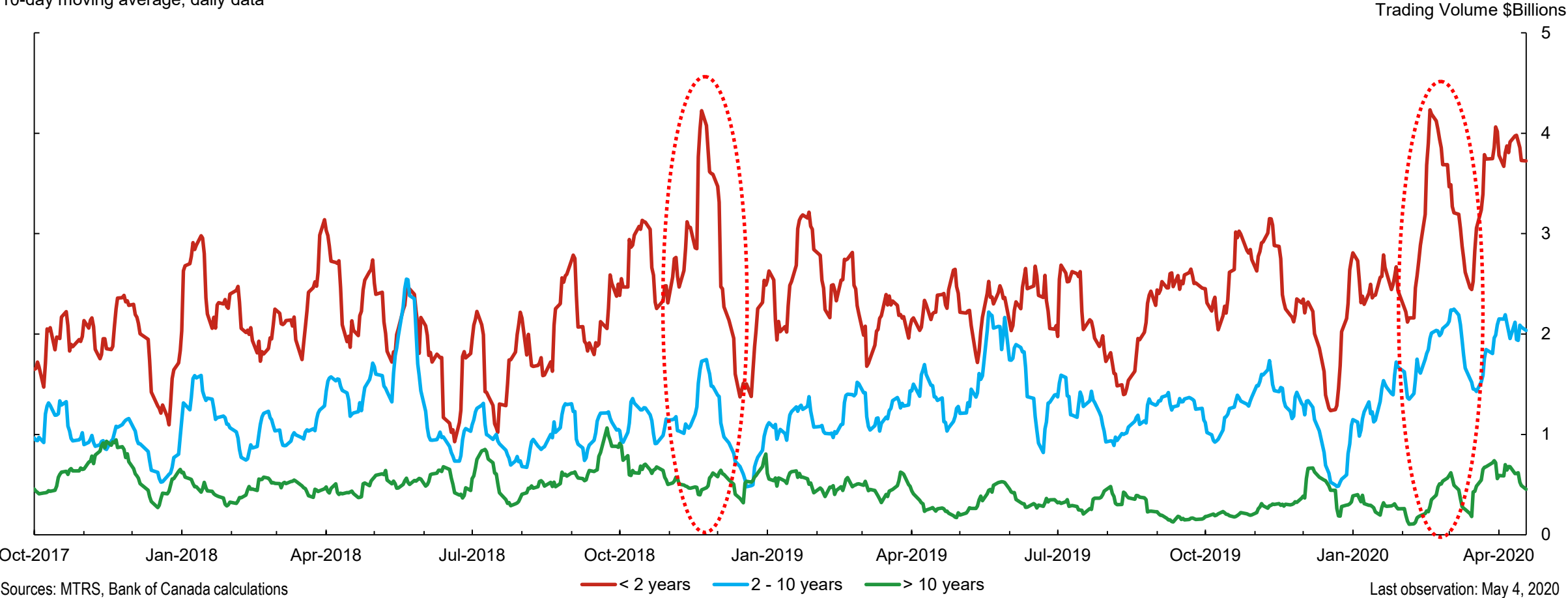
Source: Canadian Depository for Securities and Bank of Canada calculations



Trading volume in provincial bonds rose across all maturities

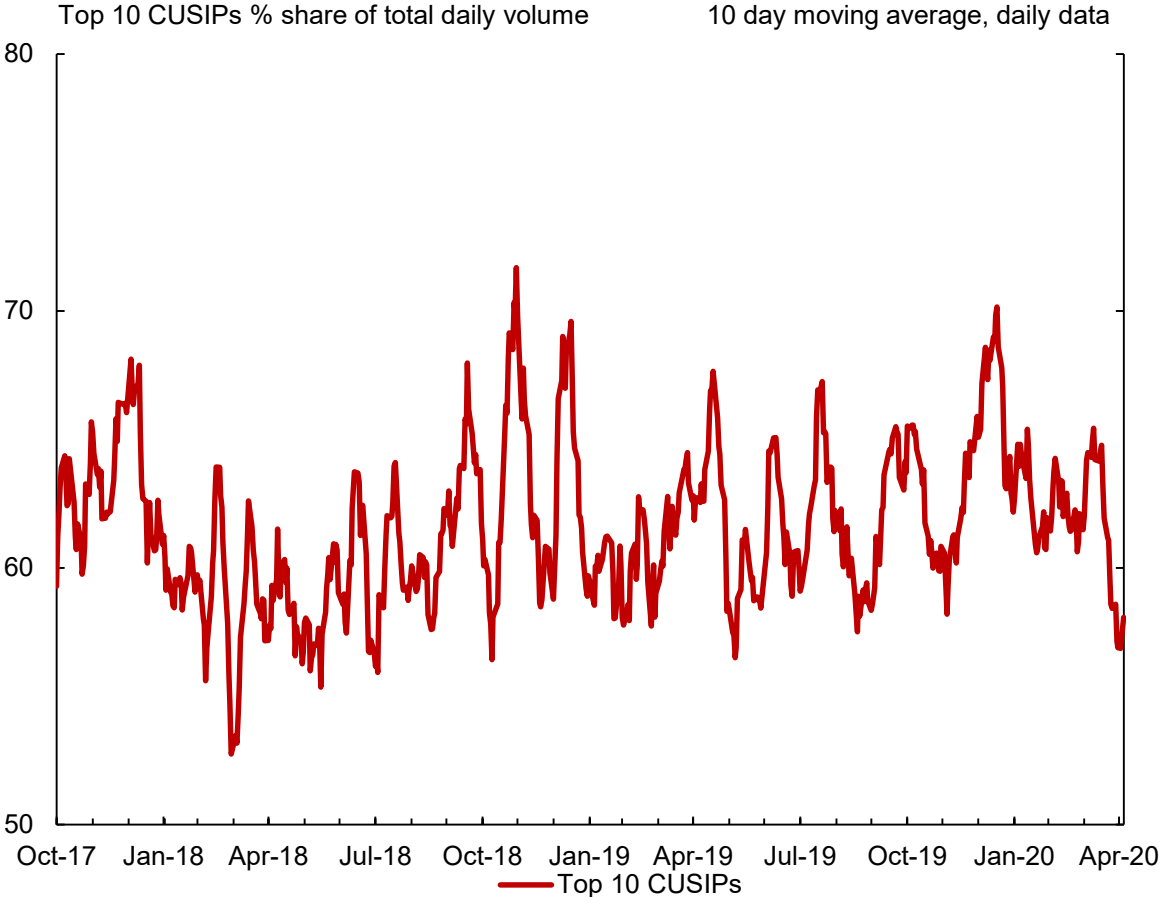
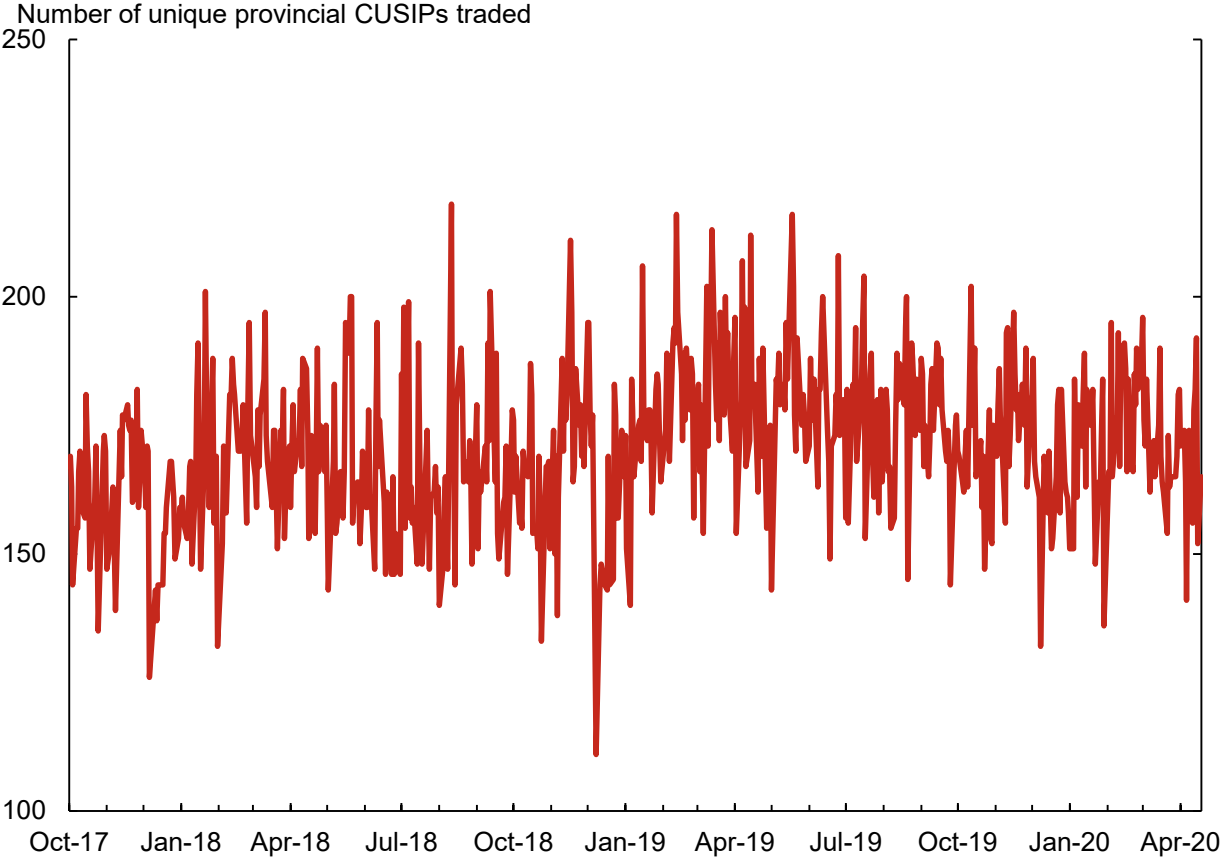
Similar to the GOC & CMB market, trading volumes rose for provincial bonds across all maturity spectrums with the largest increase in shorter tenors

10-day moving average, daily data



Trading concentrations remained unaffected in the provincial bond market

Again, as seen in other markets, the change in trading volume and market stresses did not change trading concentration in the provincial bond market



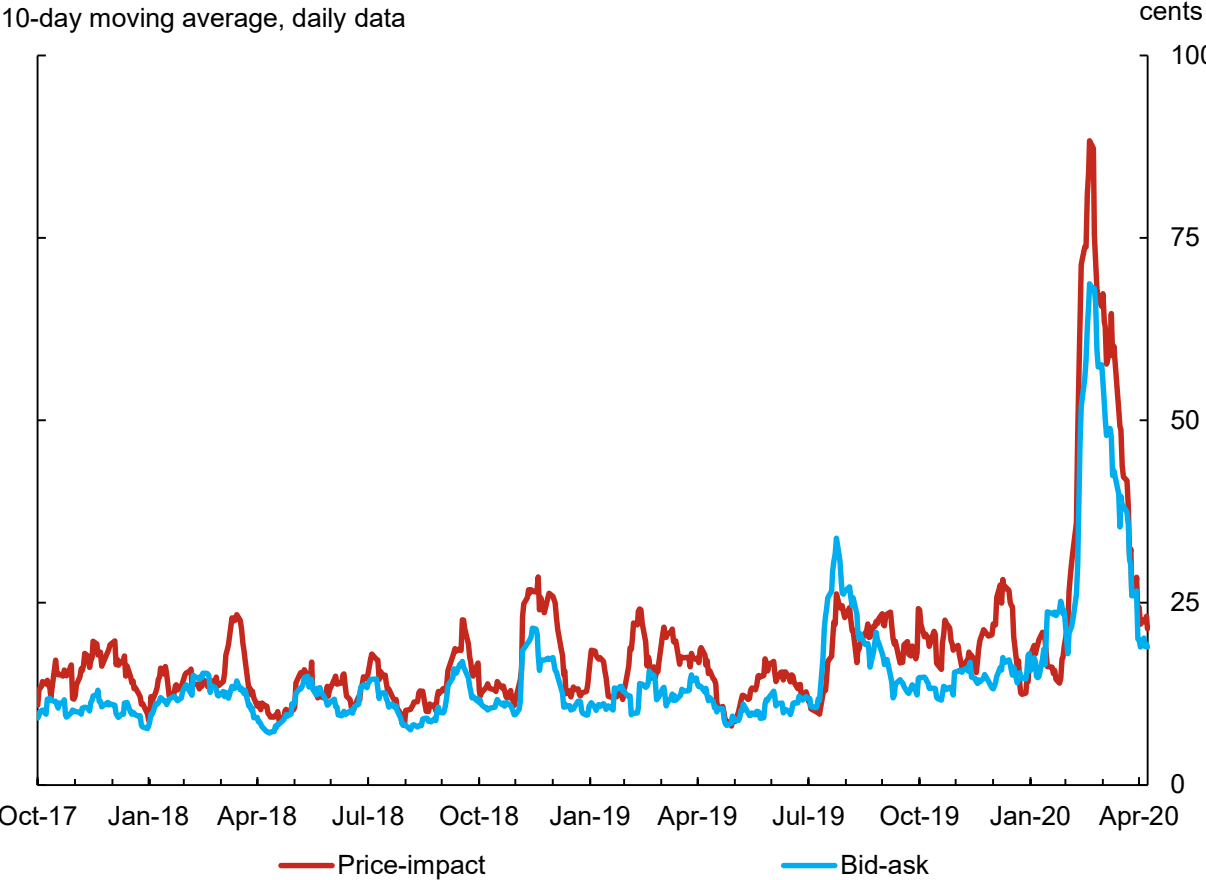
Source: MTRS 2.0 and Bank of Canada calculations

Last observation: May 4, 2020

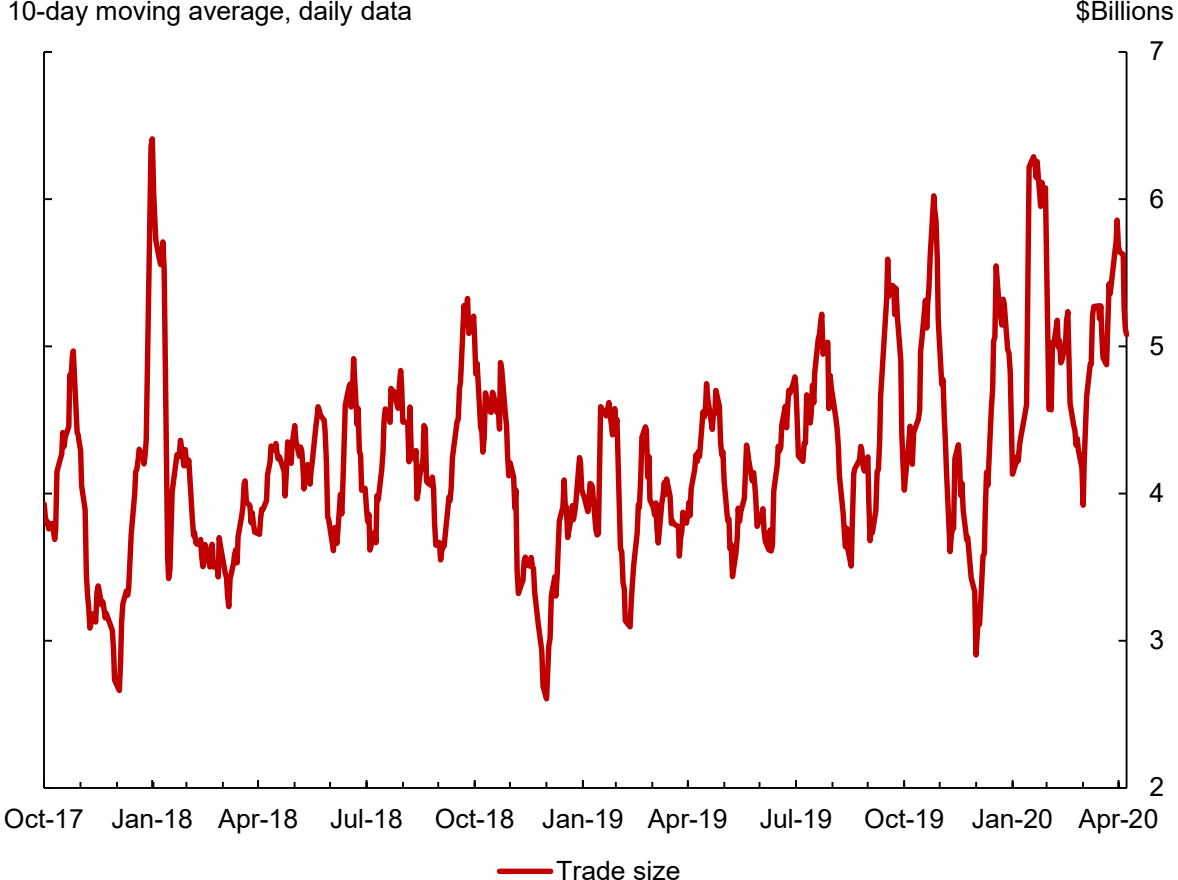


Similar to other markets liquidity declined sharply along price dimensions

Liquidity in the provincial market declined sharply along price dimensions such as price-impact and bid-ask; again, trade-size did not change markedly



Source: MTRS, Bank of Canada calculations Last observation: May 4, 2020

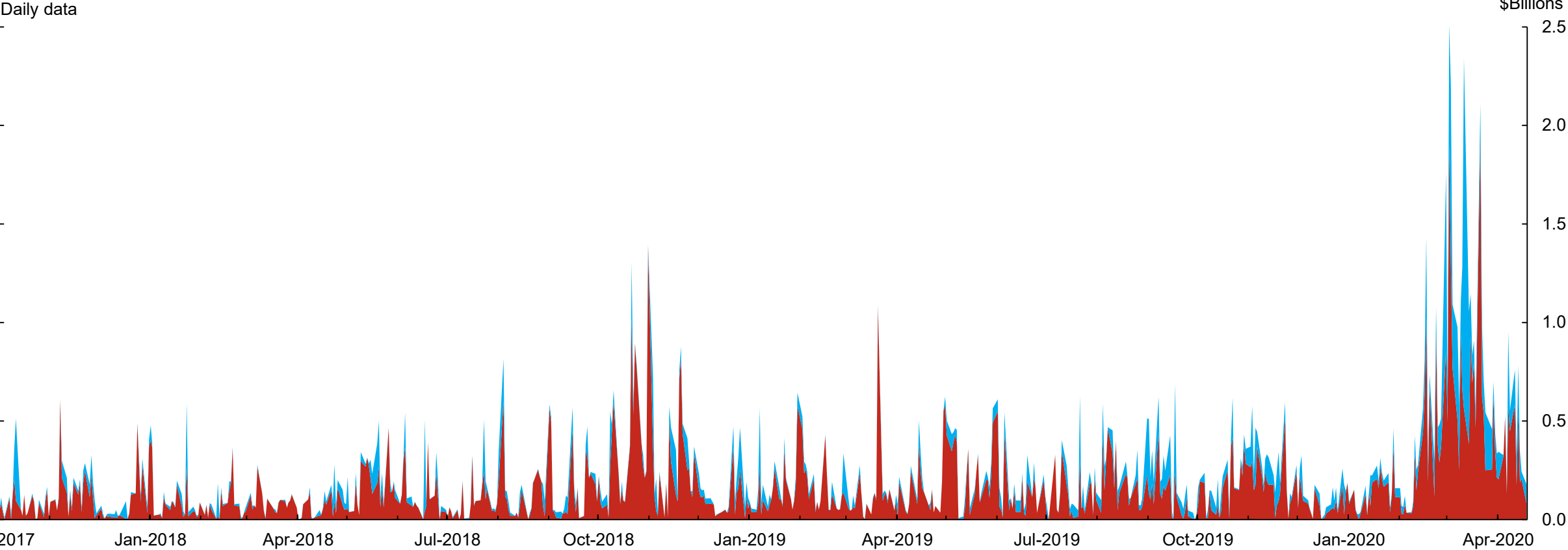


Source: MTRS, Bank of Canada calculations Last observation: May 4, 2020



Fails in the provincial bond market peaked in March

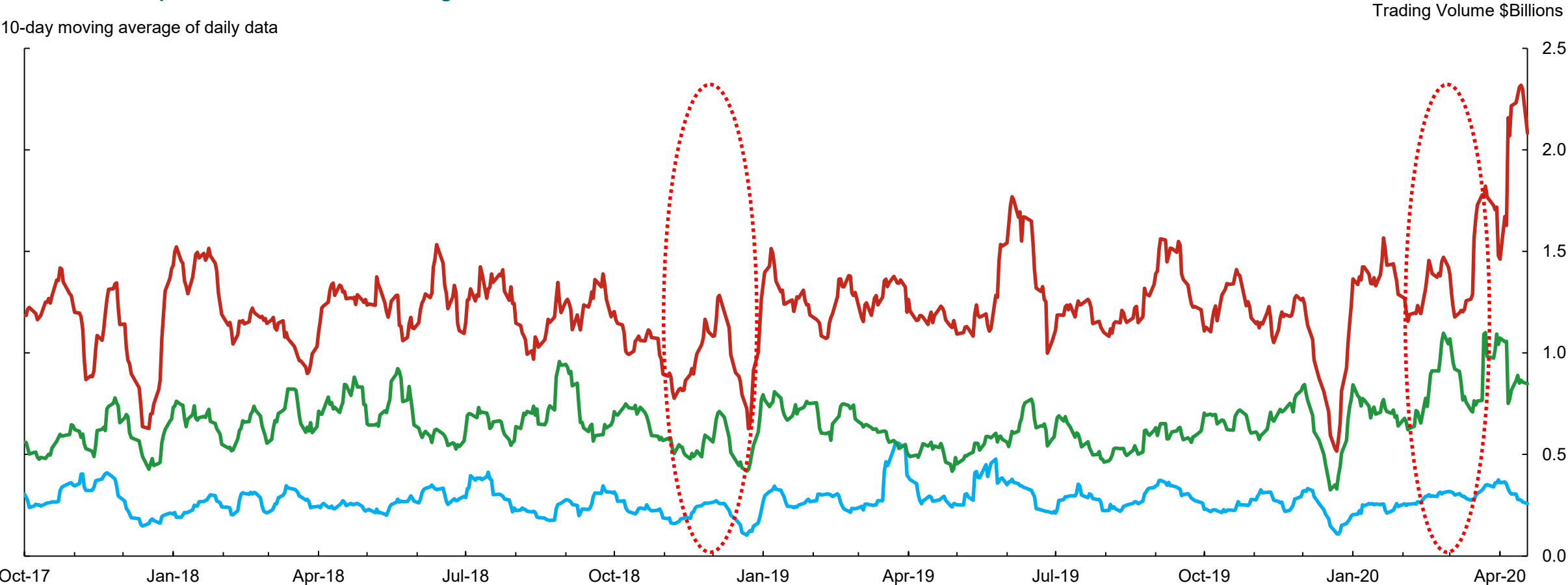
Fails in the provincial bond market exhibited the same pattern as the GoC market; i.e. spikes in volume of both repo and cash fails above recent historical levels



Corporate bond volumes increased slightly during Covid-19

Increases in corporate bond volumes were again most notable in shorter tenors

10-day moving average of daily data



Sources: MTRS, Bank of Canada calculations

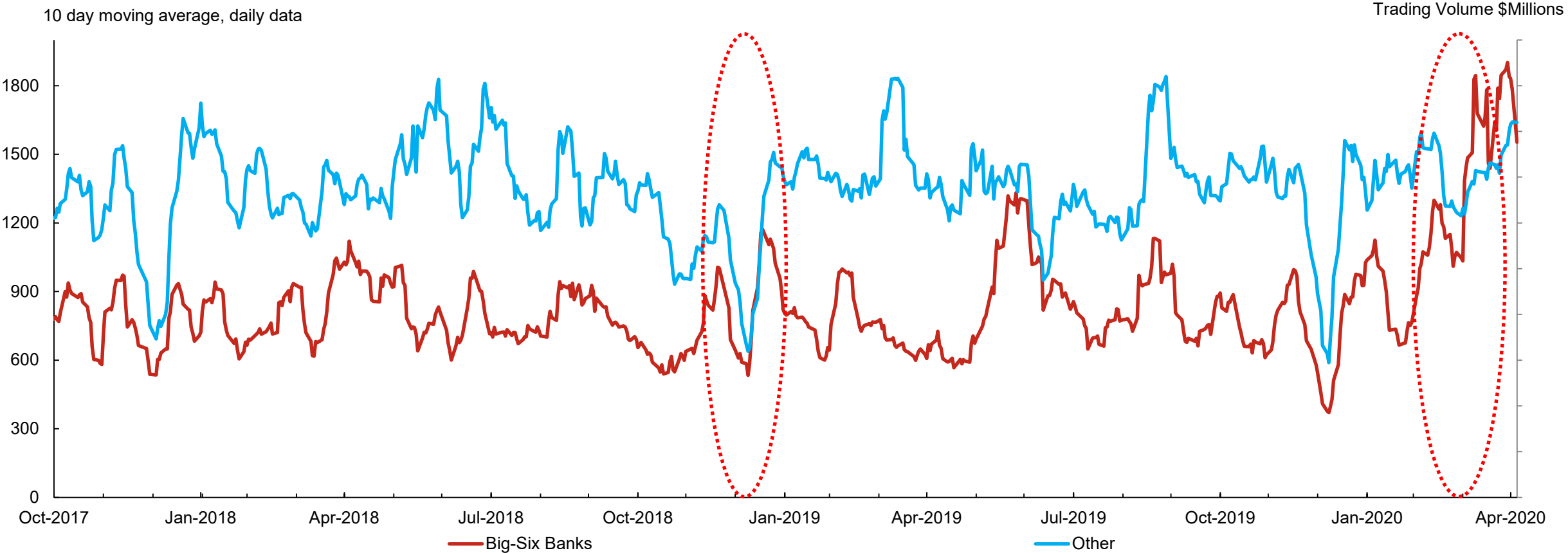
— < 2 years — 2 - 10 years — > 10 years

Last observation: May 4, 2020



The increase in aggregate trading volume was driven by deposit notes

The jump in aggregate trading volume was primarily driven by an increase in trading volume for Big-6 issued debt



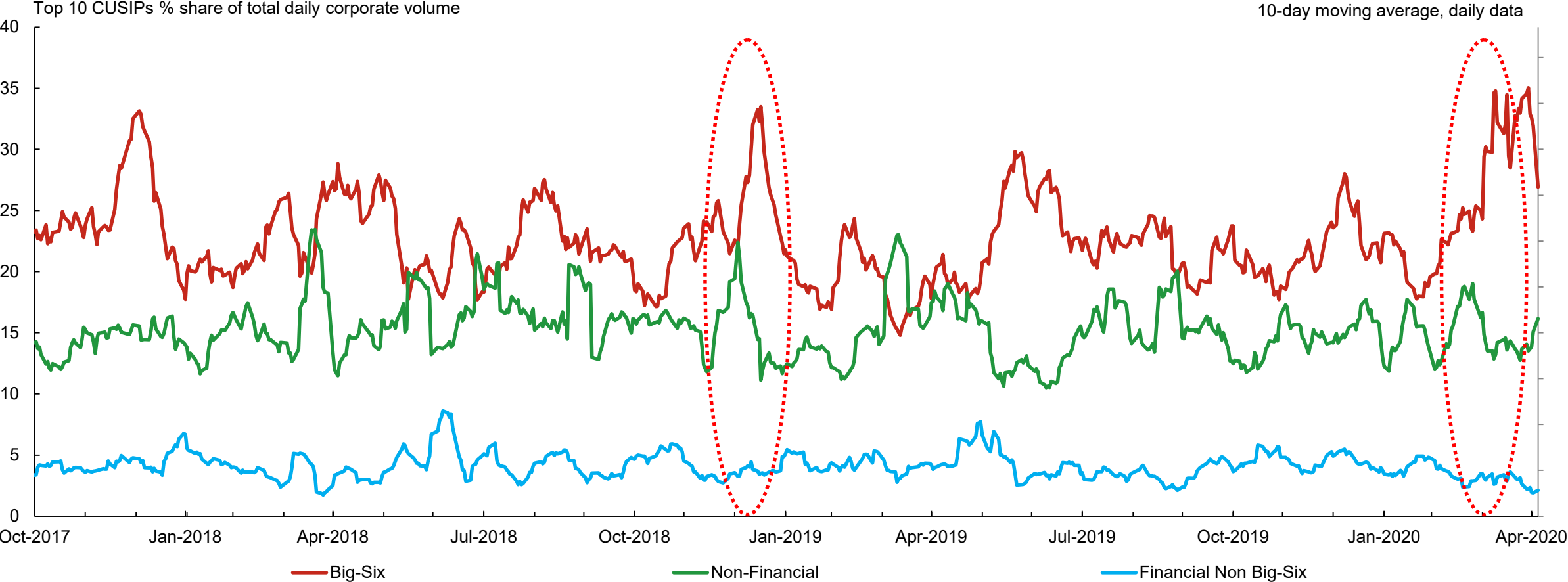
Source: MTRS 2.0, Reuters and Bank of Canada Calculations

Last observation: May 04, 2020



Trading became noticeably more concentrated in bank-debt

As corporate bond trading volumes increased, trading concentration became more elevated for bank-debt



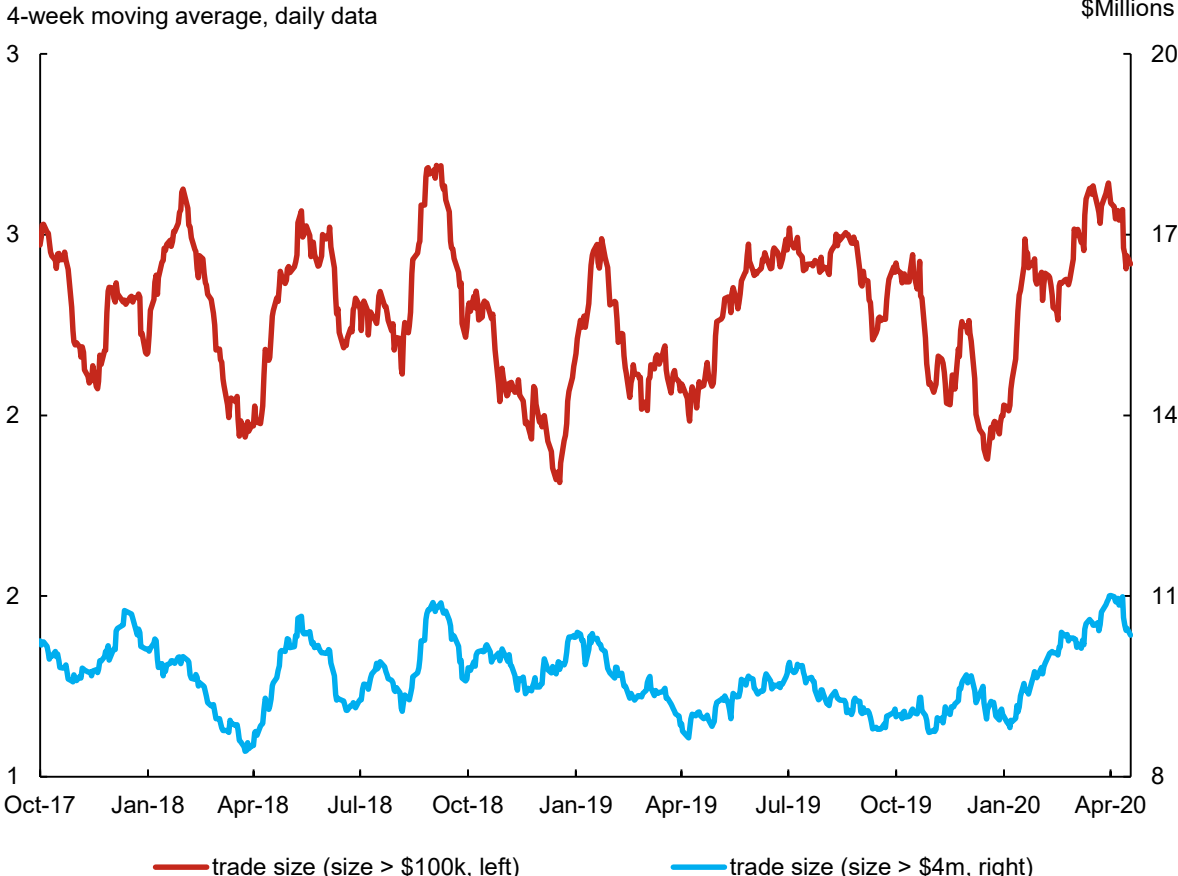
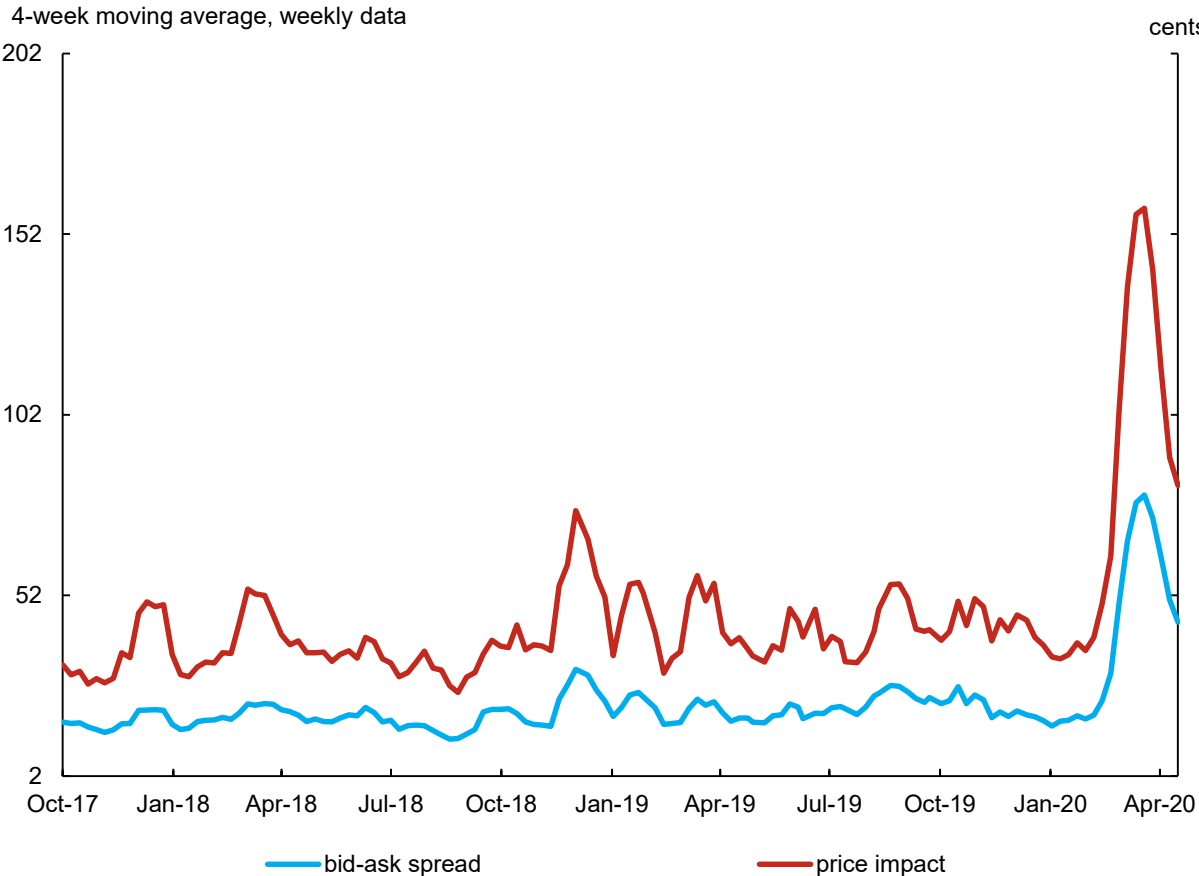
Source: MTRS 2.0, Reuters and Bank of Canada calculations

Last observation: May 04, 2020



Aggregate corporate liquidity deteriorated sharply

Aggregate corporate bond market liquidity declined along price dimensions, while trade-size for both large and small trades remained unaffected



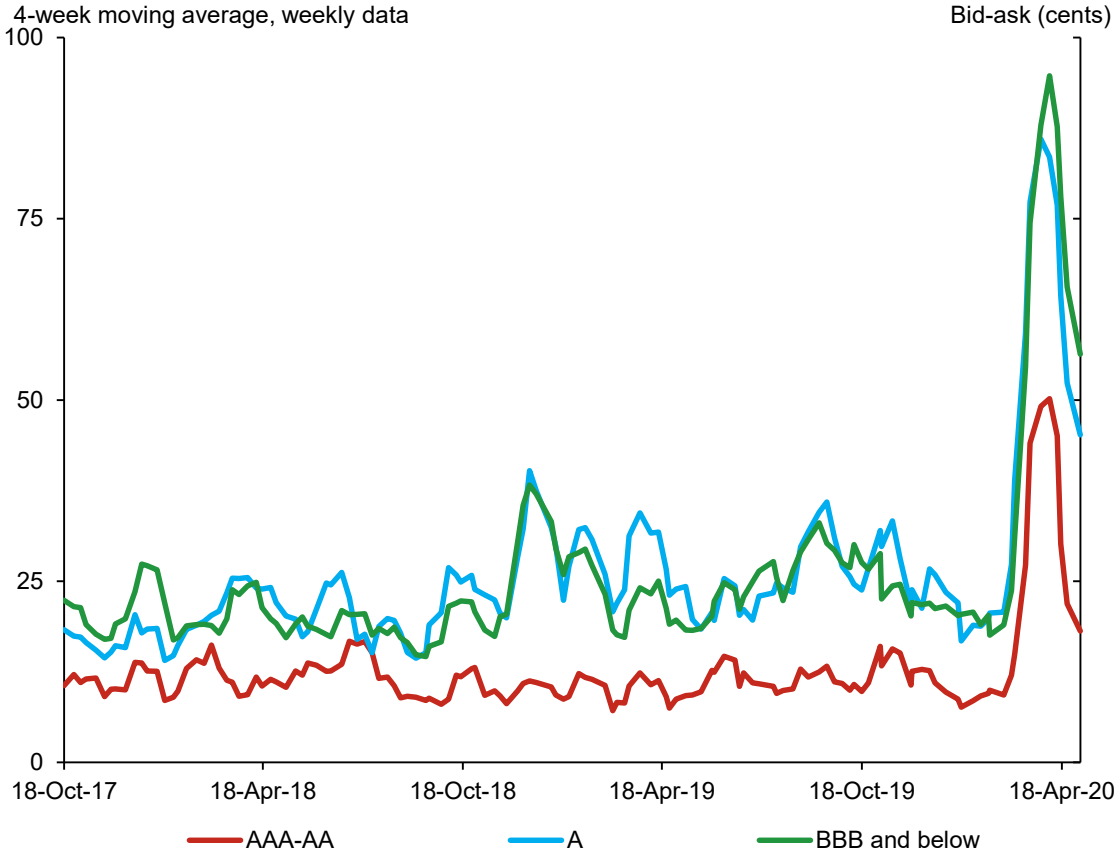
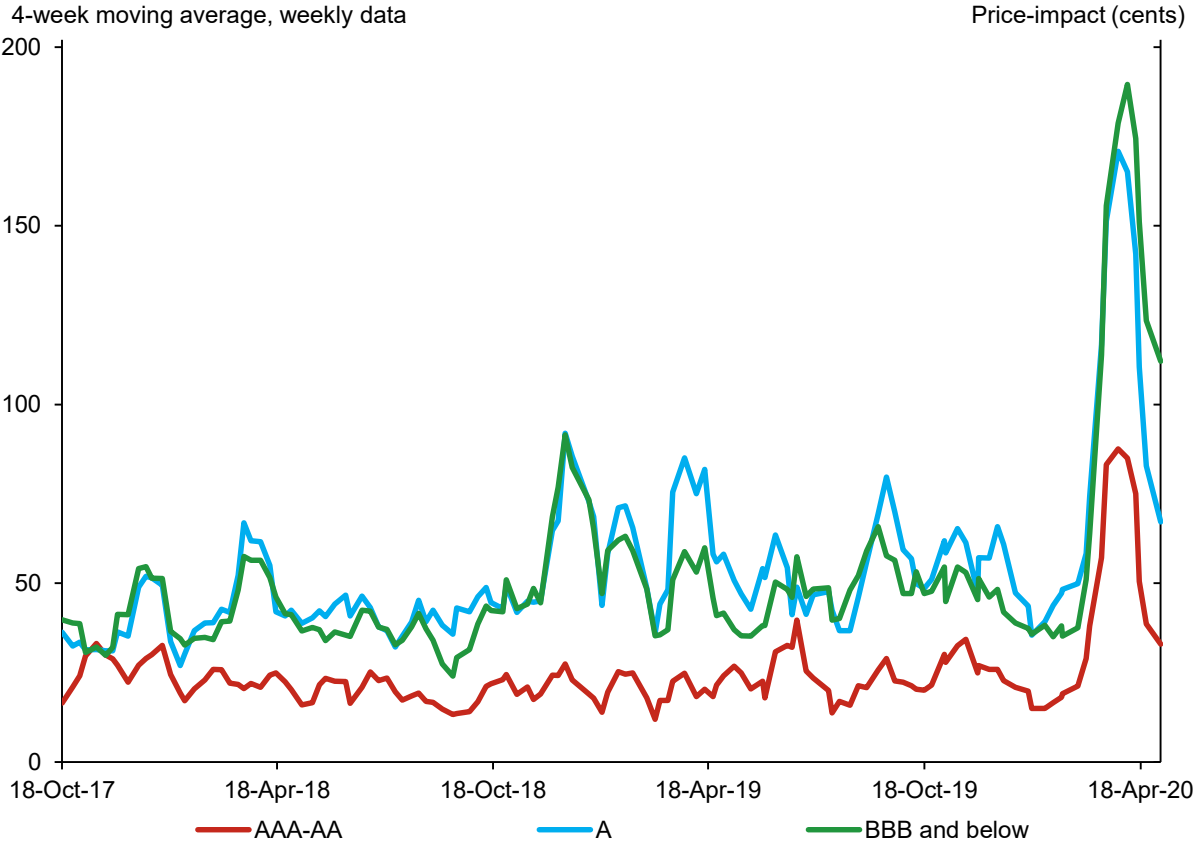
Sources: Canadian Depository for Securities and Bank of Canada calculations

Last observation: May 4, 2020



The decline in corporate liquidity was worse for lower-rated debt

The decline in corporate bond market liquidity was concentrated in “BBB and below” and “A” rated debt



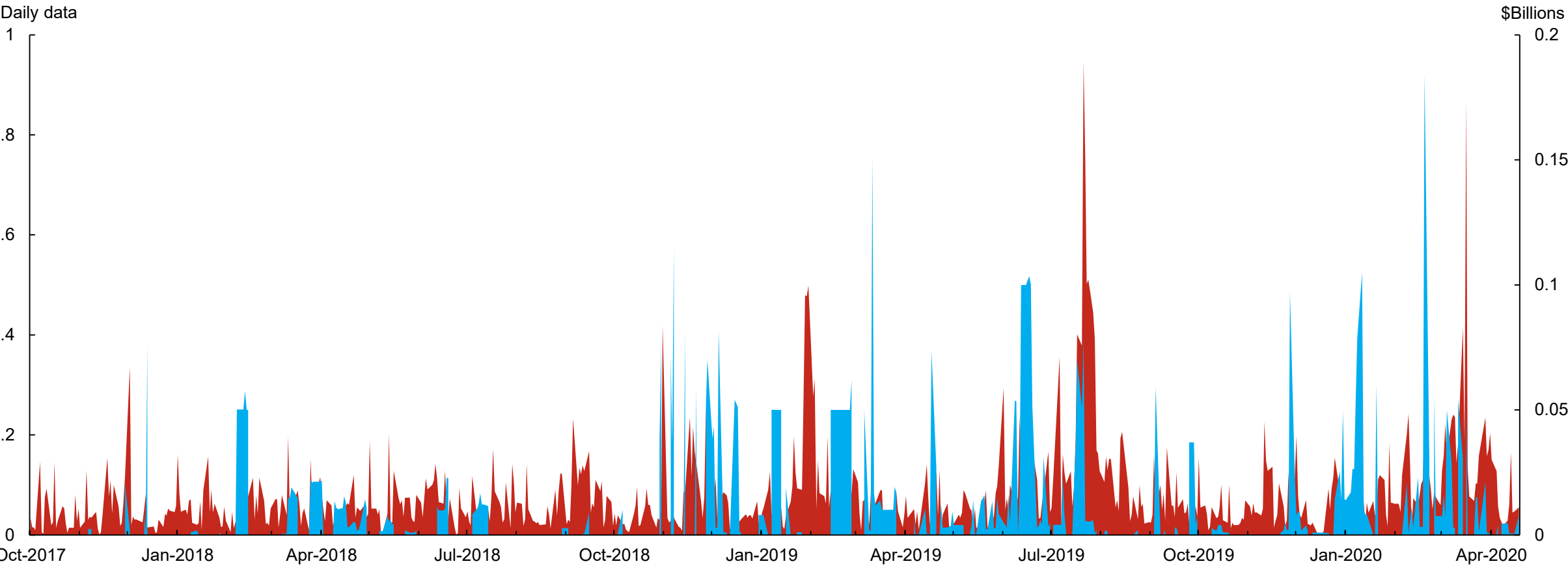
Sources: Canadian Depository for Securities and Bank of Canada calculations

Last observation: May 4, 2020



Cash fails increased more than repo fails in the corporate bond market

Cash fails did not surpass recent historic fail levels while repo fails were above recent highs



Source: Canadian Depository for Securities, Bank of Canada calculations

Last observation: May 4, 2020





Appendix Slides

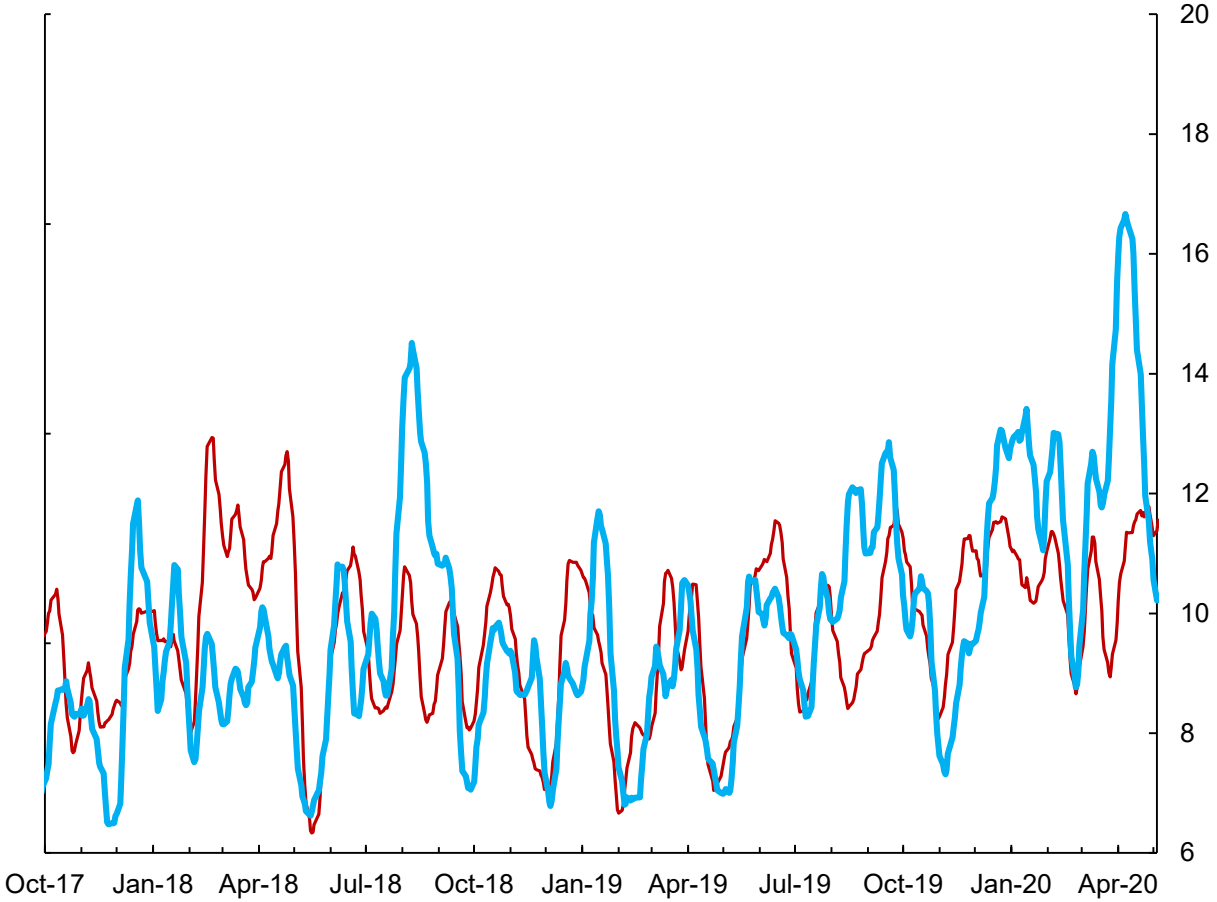
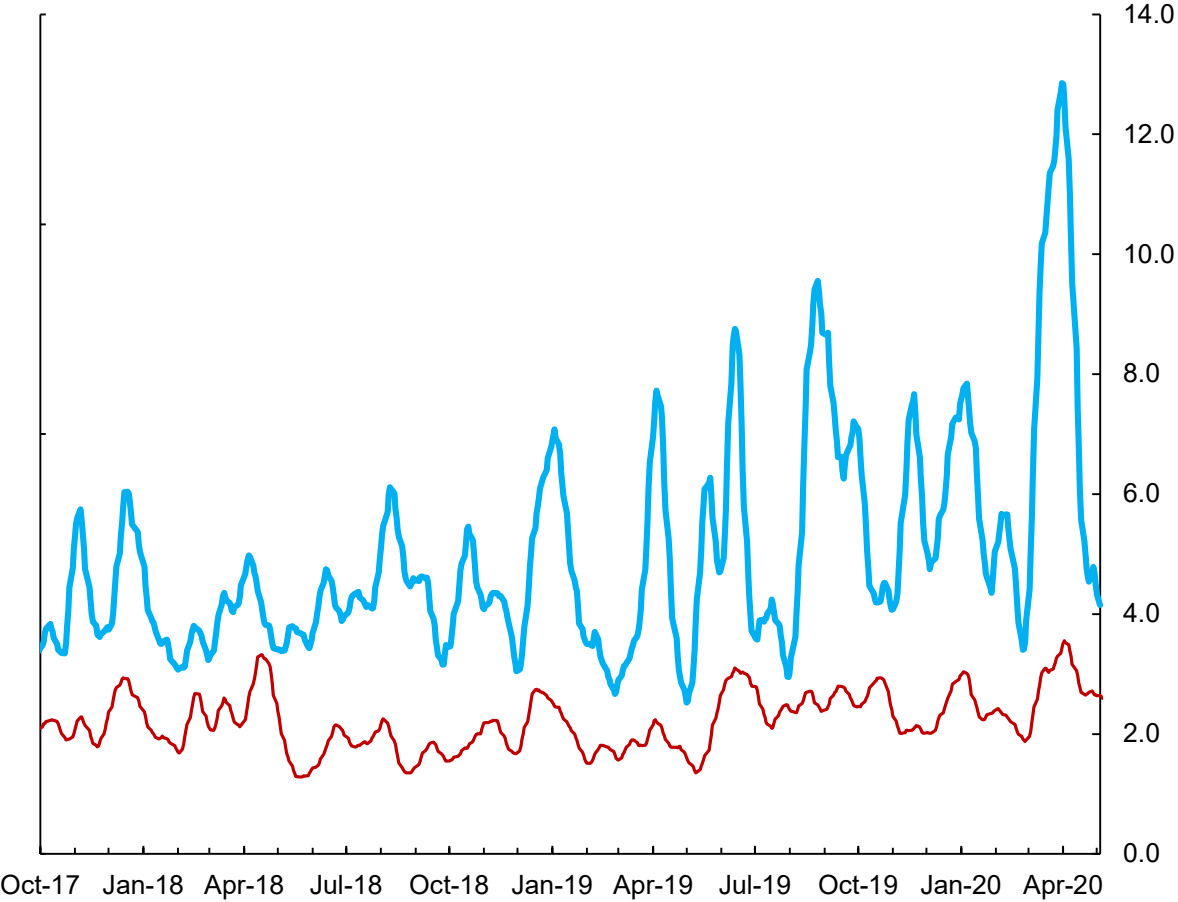
Price impact & bid-ask proxies for 10-year GoCs

10-day moving average of daily

Price-Impact Proxy (cents)

10-day moving average of daily

Bid-Ask Proxy (cents)



Source: MTRS 2.0 and Bank of Canada calculations

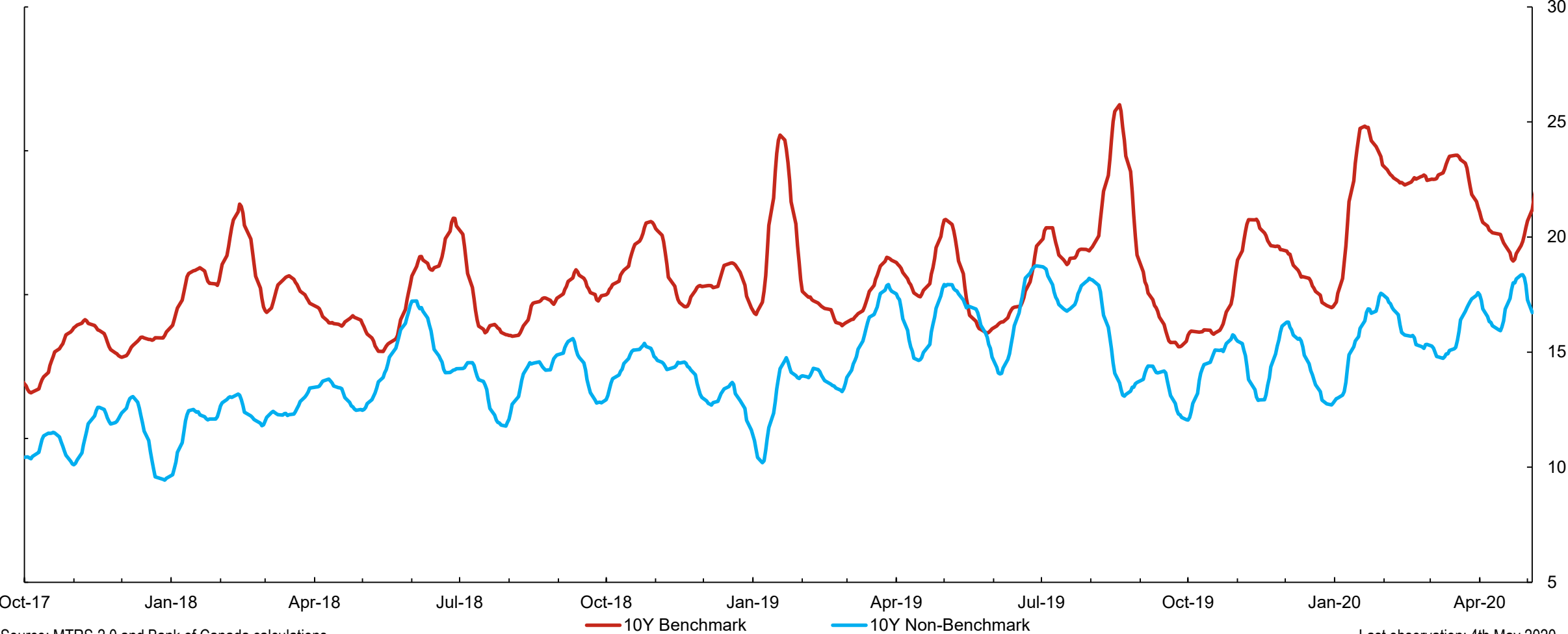
— 10Y Benchmark — 10Y Non-Benchmark

Last observation: 4th May 2020

Trade-size for 10-year GoCs

10-day moving average, daily data

Trade volume (CAD Billions)

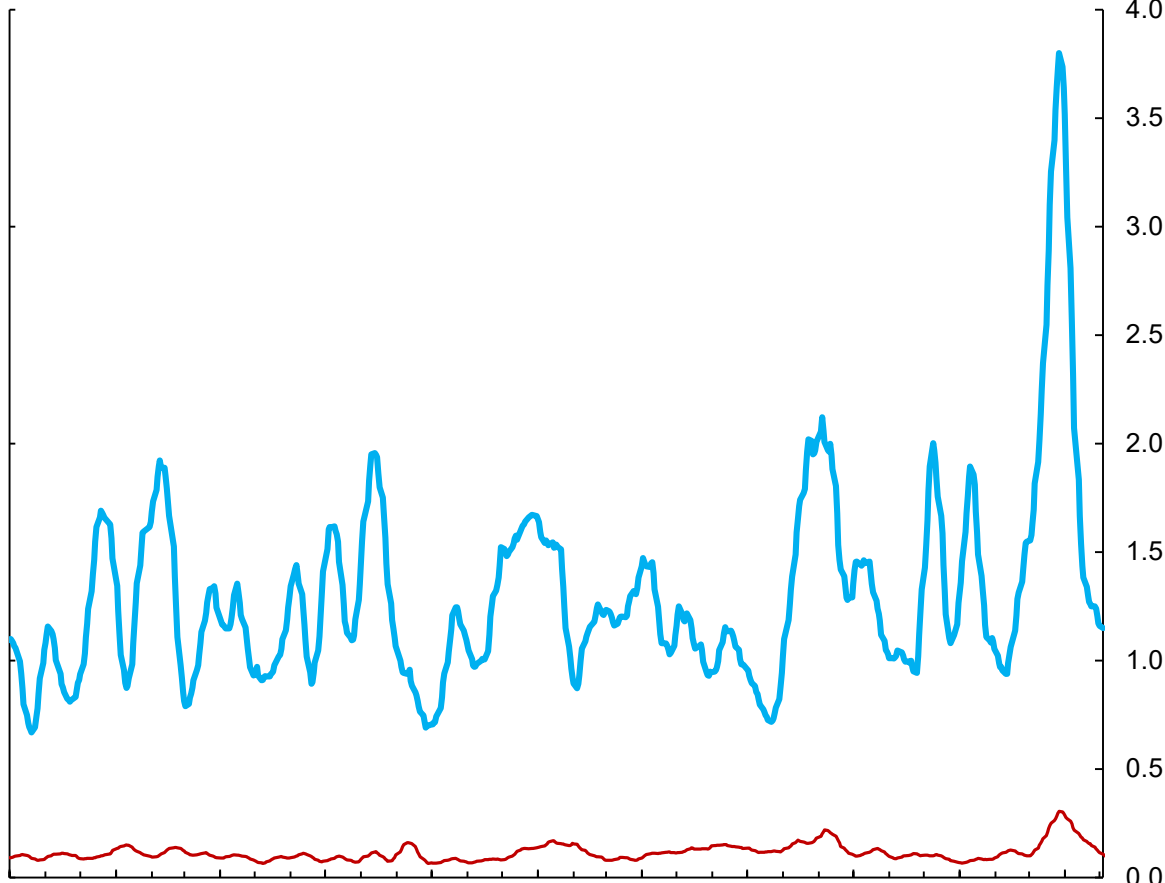


Source: MTRS 2.0 and Bank of Canada calculations

Last observation: 4th May 2020

Price impact & bid-ask proxies for 2-year GoCs

10-day moving average, daily

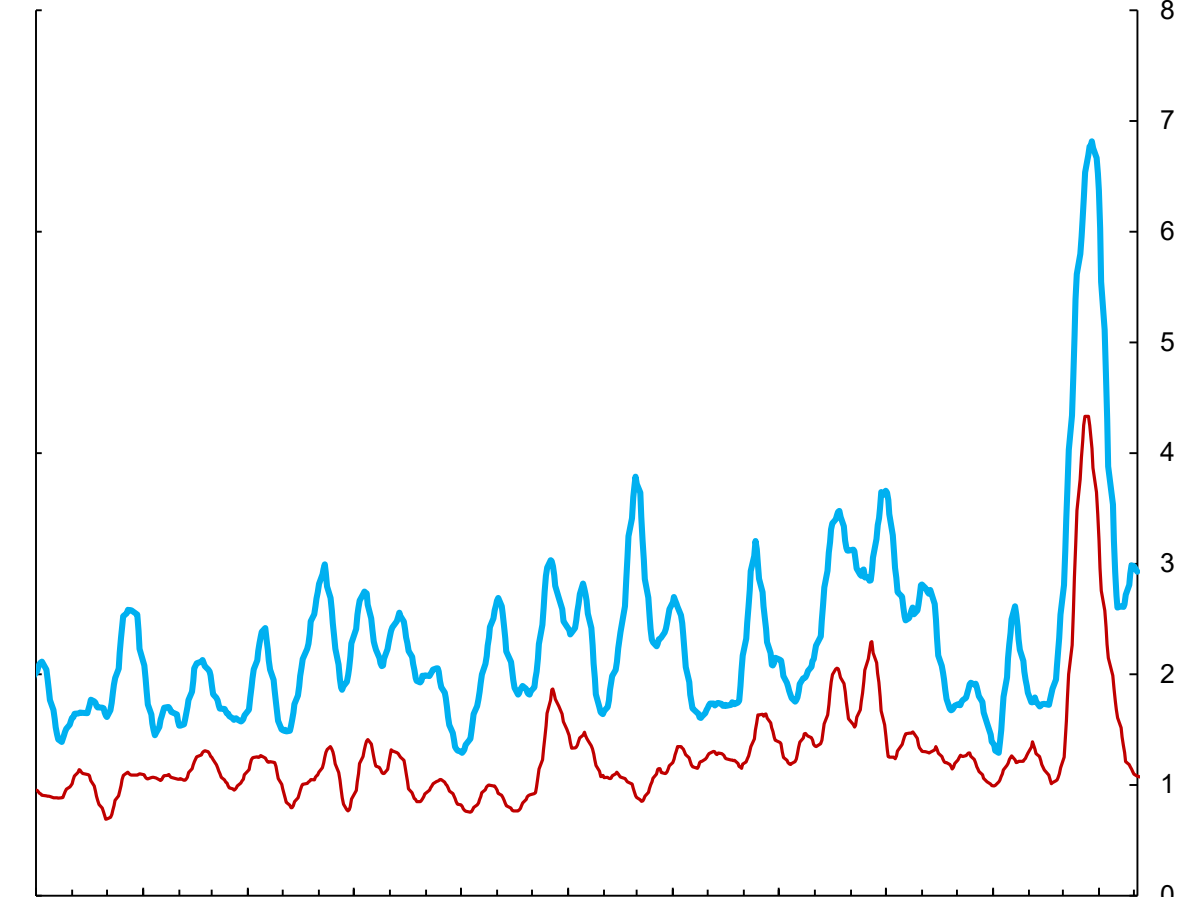


Oct-17 Jan-18 Apr-18 Jul-18 Oct-18 Jan-19 Apr-19 Jul-19 Oct-19 Jan-20 Apr-20

Source: MTRS 2.0 and Bank of Canada calculations

— 2Y Benchmark

10-day moving average, daily data



Oct-17 Jan-18 Apr-18 Jul-18 Oct-18 Jan-19 Apr-19 Jul-19 Oct-19 Jan-20 Apr-20

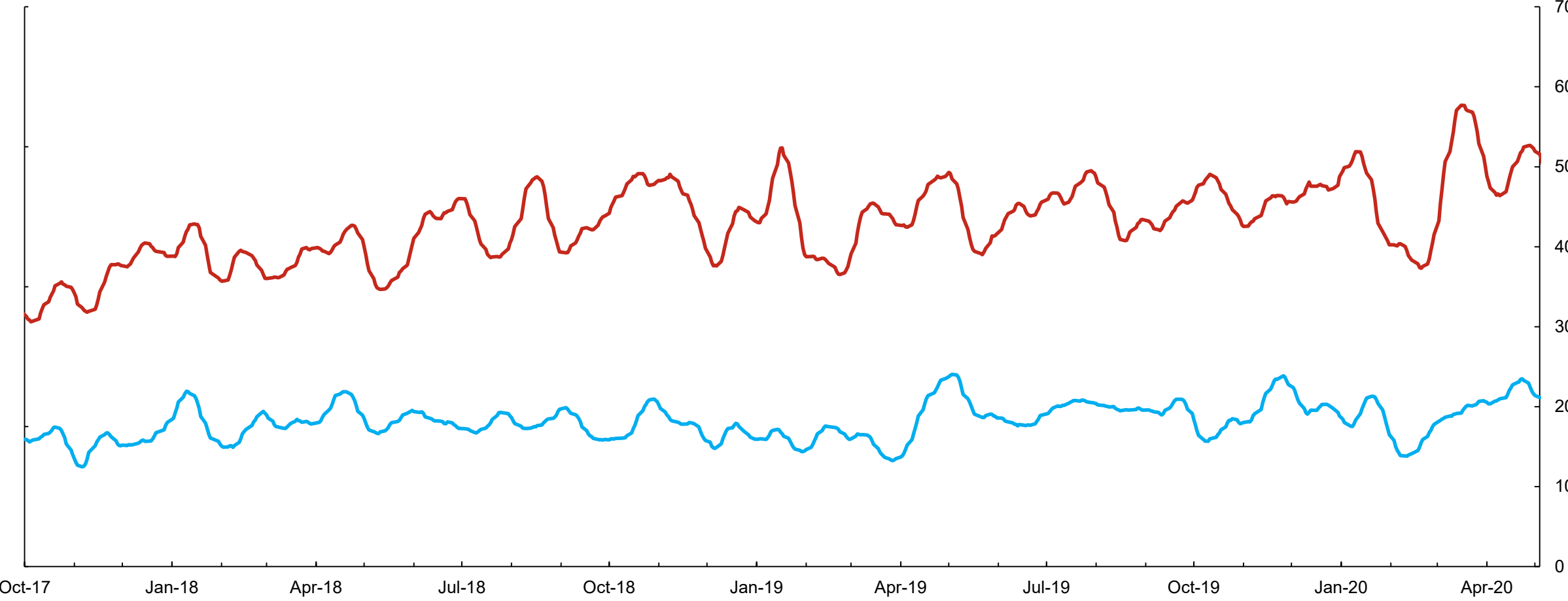
Last observation: 4th May 2020

— 2Y Non-Benchmark

Trade-size for 2-year GoCs

10-day moving average, daily data

Trade volume (CAD Billions)



Source: MTRS 2.0 and Bank of Canada calculations

— 2Y Benchmark — 2Y Non-Benchmark

Last observation: 4th May 2020