

lies at the core of the financial system. Second, a multi-dealer platform—which is like platforms in many other OTC markets, including the largest ones in the United States and Europe—exists, but not all investors have access to it. This is a useful institutional feature we exploit in our empirical strategy. Third, a reporting regulation allows us to observe trade-level data, so that we can zoom in on each individual trade, unlike prior studies on government bond markets.³

The data cover essentially all trades that involve Canadian government bonds, as well as bidding data from all primary auctions in which the government issues bonds. The data set is unique in that it includes identifiers for market participants and securities, so that we can trace both through the market. We observe the time, price, and size of trades and know whether a trade was executed bilaterally or on the platform and whether an investor is retail or institutional. In addition, we collect bid and ask quotes that are posted on Bloomberg and therefore publicly available. They indicate at what prices investors can trade and serve as market values of each bond.

Our trade-level data allow us to document novel facts. We show that dealers charge markups over market value. These markups vary across investors and are systematically smaller for institutional than for retail investors. To test whether this is because of platform access, we use an event study design to show that the prices of an investor who (exogenously) loses platform access drop by an amount that is eight times the bid-ask spread. This raises the possibility that making platform access universal could lead to better prices. It neglects the fact, however, that dealers might respond by adjusting platform quotes.

To assess all price effects and quantify welfare gains when centralizing the market, we introduce a model in which dealers and investors have different values for realizing trade. They play a two-stage game. First, dealers simultaneously post (indicative) quotes at which they are willing to trade on the platform. Then, institutional investors

³Relative to other OTC markets, we know little about government bond markets because trade-level data are not readily available. The U.S., for example, began collecting trade-level data in mid-2017 but does not make it accessible to academics. Some countries granted access to data on parts of their Treasury market (Dunne et al. (2015); Monias et al. (2017); Kondor and Pintér (2019); De Roure et al. (2020)).

Exchange: Exchange. on min. 30 days' notice into pfd AAA ser JJ as follows:

On Dec 31, 2022.....\$25.00.....1 On Dec 31, 2027.....\$25.00.....1

Exchange. on Dec. 31 in every fifth year thereafter.

Lead Underwriter(s): Scotia Capital Inc., CIBC World Markets Inc., RBC Capital Markets, TD Securities Inc.

Transfer Agent: TSX Trust Company

Registrar: TSX Trust Company

Exchanges: TSX

Symbol: BPO.PR.I

CUSIP: 112900592

Brookfield Property Split Corp.

Cum. Class A Pref., Series 1

Issued: 1,000,000 shs. Jun 11, 2014 US\$25.000

O/S: 842,534 shs. Dec 31, 2021

Dividend: US\$1.3125 (Q) Mar 31/Jun 30/Sep 30/Dec 31

Redemption: Redeem. on and after the following dates on min. 30 days' notice as follows:

Jun 11, 2014.....US\$25.33 Jun 30, 2014.....US\$25.00

Retraction: Retract. on and after the following dates as follows:

Jun 11, 2014.....US\$23.75 Sep 30, 2015.....US\$25.00

Note: Issued upon exchange of Brookfield Office Properties Inc. class AAA pref. shares series G, series H, Series J or series K shares.

Transfer Agent: TSX Trust Company

Registrar: TSX Trust Company

Exchanges: TSX

Symbol: BPS.PR.U

CUSIP: 112827209

Cum. Class A Pref., Series 2

Issued: 1,000,000 shs. Jun 11, 2014 \$25.000

O/S: 556,746 shs. Dec 31, 2021

Dividend: \$1.4375 (Q) Mar 31/Jun 30/Sep 30/Dec 31

Redemption: Redeem. on and after the following dates on min. 30 days' notice as follows:

Jun 11, 2014.....\$25.33 Dec 31, 2014.....\$25.00

Retraction: Retract. on and after the following dates as follows:

Jun 11, 2014.....\$23.75 Dec 31, 2015.....\$25.00

Note: Issued upon exchange of Brookfield Office Properties Inc. class AAA pref. shares series G, series H, Series J or series K shares.

Transfer Agent: TSX Trust Company

Registrar: TSX Trust Company

Exchanges: TSX

Symbol: BPS.PR.A

CUSIP: 112827308

Cum. Class A Pref., Series 3

Issued: 1,000,000 shs. Jun 11, 2014 \$25.000

O/S: 781,592 shs. Dec 31, 2021

Dividend: \$1.25 (Q) Mar 31/Jun 30/Sep 30/Dec 31

Redemption: Redeem. on and after the following dates as follows:

Jun 11, 2014.....\$25.25 Jun 30, 2014.....\$25.00

Retraction: Retract. on and after the following dates as follows:

Jun 11, 2014.....\$23.75 Dec 31, 2014.....\$25.00

Note: Issued upon exchange of Brookfield Office Properties Inc. class AAA pref. shares series G, series H, Series J or series K shares.

Transfer Agent: TSX Trust Company

Registrar: TSX Trust Company

Exchanges: TSX

Symbol: BPS.PR.B

CUSIP: 112827407

Exchange: Was exchange. on min. 30 days' notice into pfd ser 2 sh as follows:

On Sep 30, 2015.....\$25.00.....1 On Sep 30, 2020.....\$25.00.....1
Exchange. on Sept. 30 in every fifth year thereafter.

Lead Underwriter(s): CIBC World Markets Inc.

Transfer Agent: Computershare Investor Services Inc.

Registrar: Computershare Investor Services Inc.

Exchanges: TSX

Symbol: NPI.PR.A

CUSIP: 666511308

5.08% Cum. 5-Year Rate Reset Pref., Series 3

Issued: 4,800,000 shs. May 24, 2012 \$25.000
O/S: 4,800,000 shs. Dec 31, 2021
Dividend: \$1.27 (Q) Mar 31/Jun 30/Sep 30/Dec 31

Dividend Details: Reset on Dec 31, 2022. Dividend rate will be reset in every fifth year thereafter. The annual dividend rate will be equal to the sum of the five-year Government of Canada Bond Yield plus 3.46%. Previously, annual divd. rate was 1.250000 per sh until Dec 30, 2017.

Redemption: Redeem. on the following dates on min. 30 and max. 60 days' notice as follows:

Dec 31, 2017.....\$25.00 Dec 31, 2022.....\$25.00

Redeem. on Dec. 31 in every fifth year thereafter on min. 30 and max. 60 days' notice at \$25.00 per share.

Exchange: Exchange. on min. 30 days' notice into pfd ser 4 as follows:

On Dec 31, 2017.....\$25.00.....1 On Dec 31, 2022.....\$25.00.....1
Exchange. on Dec 31 in every fifth year thereafter.

Lead Underwriter(s): CIBC World Markets Inc., BMO Capital Markets, Scotia Capital Inc.

Transfer Agent: Computershare Trust Company of Canada Inc.

Registrar: Computershare Trust Company of Canada Inc.

Exchanges: TSX

Symbol: NPI.PR.C

CUSIP: 666511605

Floating Rate Cum. Pref., Series 2

Issued: 1,498,435 shs. Sep 30, 2015 \$25.000
O/S: 1,237,754 shs. Dec 31, 2021
Dividend: F.R. (Q) Mar 31/Jun 30/Sep 30/Dec 31

Dividend Details: Quarterly divd. rate is T-bill plus 2.8%.

Redemption: Redeem. on the following dates on min. 30 and max. 60 days' notice as follows:

Sep 30, 2020.....\$25.00 Sep 30, 2025.....\$25.00

Redeem. on Sept. 30 in every fifth year thereafter on min. 30 and max. 60 days' notice at \$25.00 per share.

Exchange: Exchange. on min. 30 days' notice into pfd ser 1 sh as follows:

On Sep 30, 2020.....\$25.00.....1 On Sep 30, 2025.....\$25.00.....1
Exchange. on Sept. 30 in every fifth year thereafter.

Note: Issued upon exchange of an equal number of Preferred Shares, Series 1.

Transfer Agent: Computershare Trust Company of Canada Inc.

Registrar: Computershare Trust Company of Canada Inc.

Exchanges: TSX

Symbol: NPI.PR.B

CUSIP: 666511506

Pembina Pipeline Corporation

4.906% Cum. 5-Year Rate Reset Class A Pref., Series 1

DBRS Rating: Pfd-3 Apr 28, 2022
Issued: 10,000,000 shs. Jul 26, 2013 \$25.000
O/S: 10,000,000 shs. Dec 31, 2021
Dividend: \$1.2265 (Q) Mar 1/Jun 1/Sep 1/Dec 1

Dividend Details: Reset on Dec 1, 2023. Dividend rate will be reset in every fifth year thereafter. The annual dividend rate will be equal to the sum of the five-year Government of Canada Bond Yield plus 2.47%. Previously, annual divd. rate was 1.062500 per sh until Nov 30, 2018.

Redemption: Redeem. on the following dates on min. 30 and max. 60 days' notice as follows:

Dec 1, 2018.....\$25.00 Dec 1, 2023.....\$25.00

Redeem. on Dec. 1 in every fifth year thereafter on min. 30 and max. 60 days' notice at \$25.00 per share.

DBRS Preferred Share/Securities Ratings, by Rating

| DBRS Rating | Issuer | Description | Last Update |
|-------------|----------------------------|------------------|--------------|
| Pfd-3 low | TransAlta Corp | Preferred Shares | Apr 5, 2022 |
| Pfd-4 high | Canaccord Genuity Grp Inc | Preferred Shares | Oct 22, 2021 |
| Pfd-4 high | ECN Capital Corp | Preferred | Nov 7, 2021 |
| Pfd-4 high | North Amerm Finl '15 Split | Preferred Shares | Mar 4, 2022 |
| Pfd-4 high | RF Capital Group Inc | Preferred Shares | May 27, 2021 |

Trust Units

| Issuer | O/S Amount | O/S Date | Recent Price | Rate | DRIP | Redeem. | Termination Date | Exchange | Symbol | Assets held in Portfolio |
|----------------------------|-------------|--------------|--------------|---------|------|---------|------------------|----------|--------|---|
| Sun Residential REIT | 203,338,999 | Dec 31, 2021 | 0.10 | | | | | V | SRES | Owns and operates multi-family residential properties primarily in the sunbelt region of the United States. |
| True North Coml Real | 88,718,265 | Dec 31, 2021 | \$6.67 | \$0.594 | yes | | | T | TNT.UN | Owns commercial properties. |
| Structured Products | | | | | | | | | | |
| Australian REIT Income Fd | 658,267 | Dec 31, 2021 | \$11.61 | \$0.66 | yes | | | T | HRR.UN | Invests in equity securities of Australian real estate investment trusts and others issuers engaged in the real estate industry in Australia. |
| Bitcoin Fund | 11,630,577 | Dec 31, 2021 | US\$4275 | | | | | T | QBTC.U | Invests in the digital currency bitcoin. |
| Bloom Select Income Fund | 1,338,996 | Dec 31, 2021 | \$9.48 | \$0.50 | yes | | | T | BLB.UN | Diversified portfolio comprised primarily of publicly listed or traded Canadian securities, primarily of eligible high dividend paying Canadian common equity securities, income trusts and REITs that have a Beta of less than 1.0 at the time of investment |
| Blue Ribbon Income Fund | 10,248,253 | Dec 31, 2021 | \$8.70 | \$0.48 | yes | | | T | RBN.UN | Canadian royalty trusts, income funds, real estate investment trusts and limited partnerships |
| Brookfield Glo Infra Fd | 16,620,034 | Dec 31, 2021 | \$6.63 | \$0.60 | yes | | | T | BGI.UN | Invests primarily in equity securities of publicly traded global infrastructure companies. |
| Brookfield Sel Opp Incm | 6,109,599 | Dec 31, 2021 | \$6.11 | \$0.60 | yes | | | T | BSO.UN | Portfolio of fixed income and equity securities on a global basis. |
| Cdn High Income Equity Fd | 1,348,387 | Dec 31, 2021 | \$7.78 | \$0.48 | yes | | | T | CIQ.UN | Portfolio consisting primarily of the many undervalued high income investment opportunities in the income trust sector and on the expanding high-income common equity market |

