

September 2022

Canada Market Structure Monthly



MARKET MICROSTRUCTURE OBSERVATIONS

- In September 2022, the average daily volume for TSX listed securities was 665M shares, up 6% MoM while down 10% YoY. Liquidity, spread and volatility conditions were stable MoM.
- In non-TSX listed securities, the average daily volume increased slightly to 286M shares. Despite the 3% increase MoM, this was still down 45% YoY. While liquidity conditions showed modest improvement MoM, spread and volatility conditions deteriorated.
- While TSX block volumes remained stable MoM, there was a drop in dark venue market share.

CANADA MARKET STRUCTURE NEWS

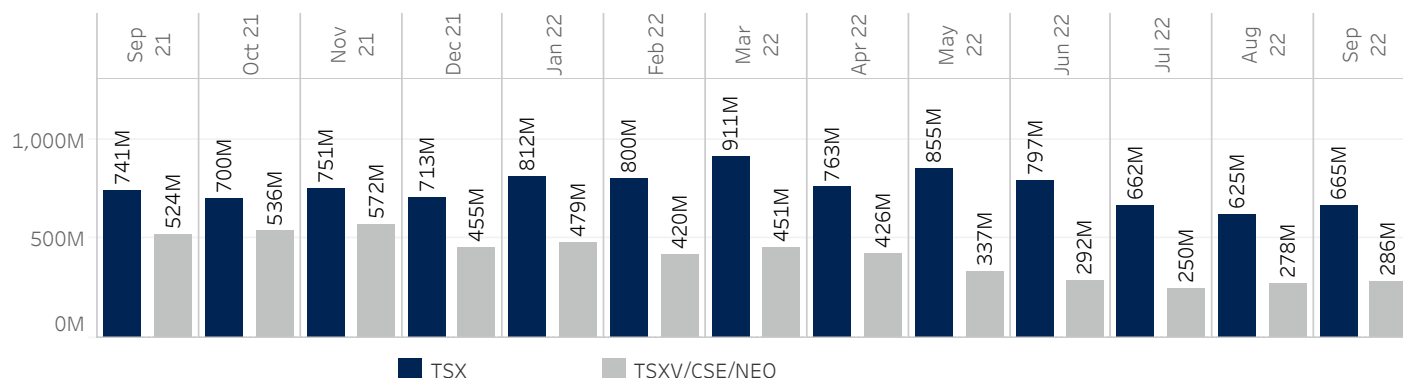
New CSNX Trading Book Revised Launch Date : 24 October 2022

On 1 September 2022, CNSX Markets Inc. (CSE) received approval for the introduction of a new trading book, CSE2. A revised CSE2 launch date of 24 October 2022 has been announced. CSE intends to structure its new book to service the retail community and reduce commission rates for retail participants. CSE2 will not have broker preferencing but will offer an inverted trading fee model which will rebate the active side of the trade. To learn more about the differences in functionality between the two CSE books, please consult the link below:

<https://thecse.com/en/about/publications/notices/notice-2022-002-amendments-to-trading-system-functionality-features>

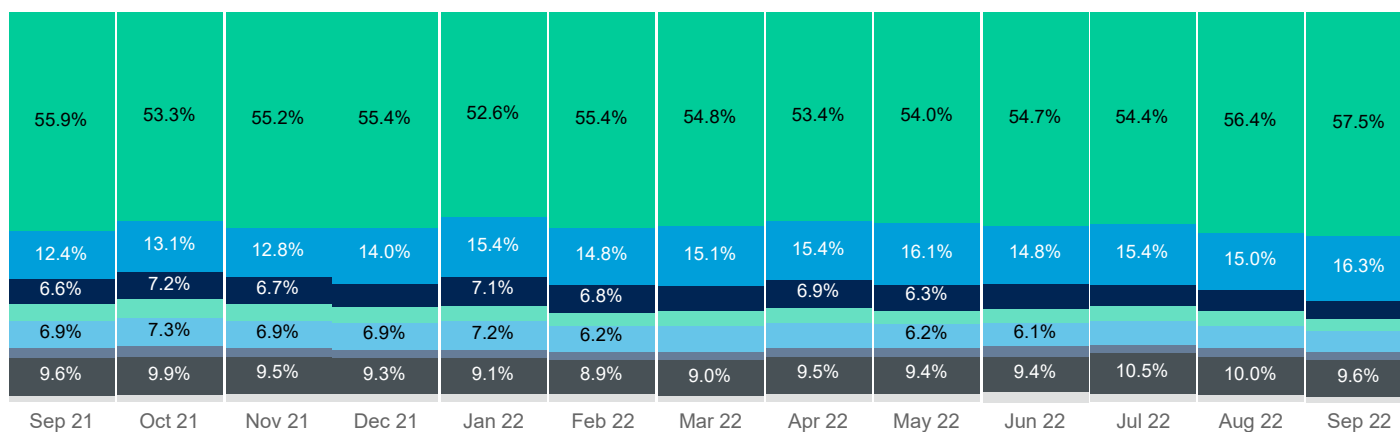


Average Daily Market Volume By Listing Exchange (Shares)

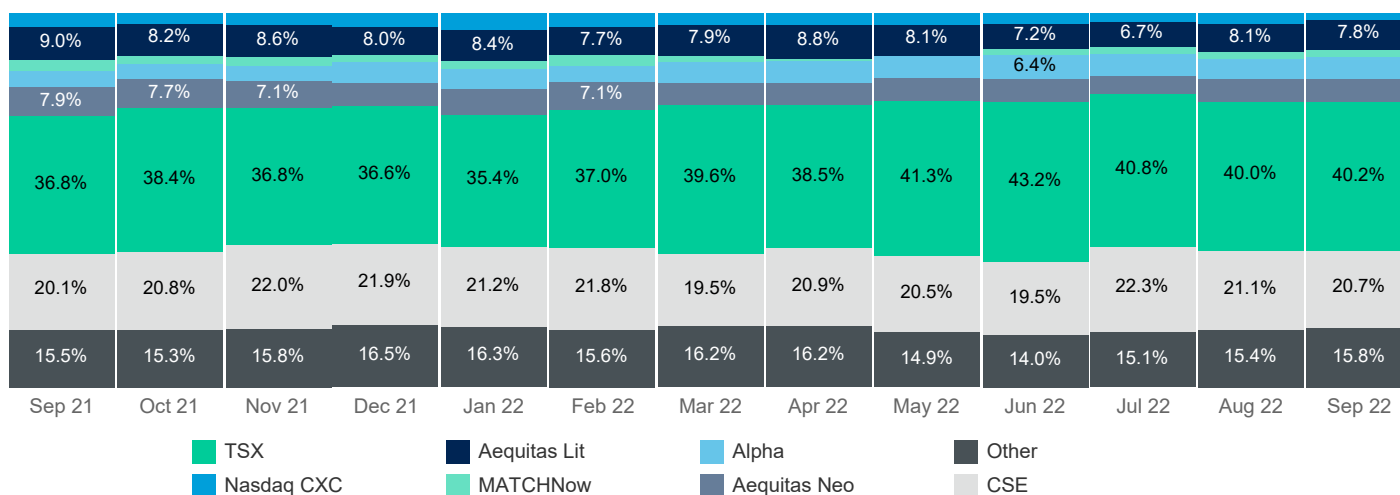


Source data: Virtu Financial

Venue Market Share (TSX-Listed)



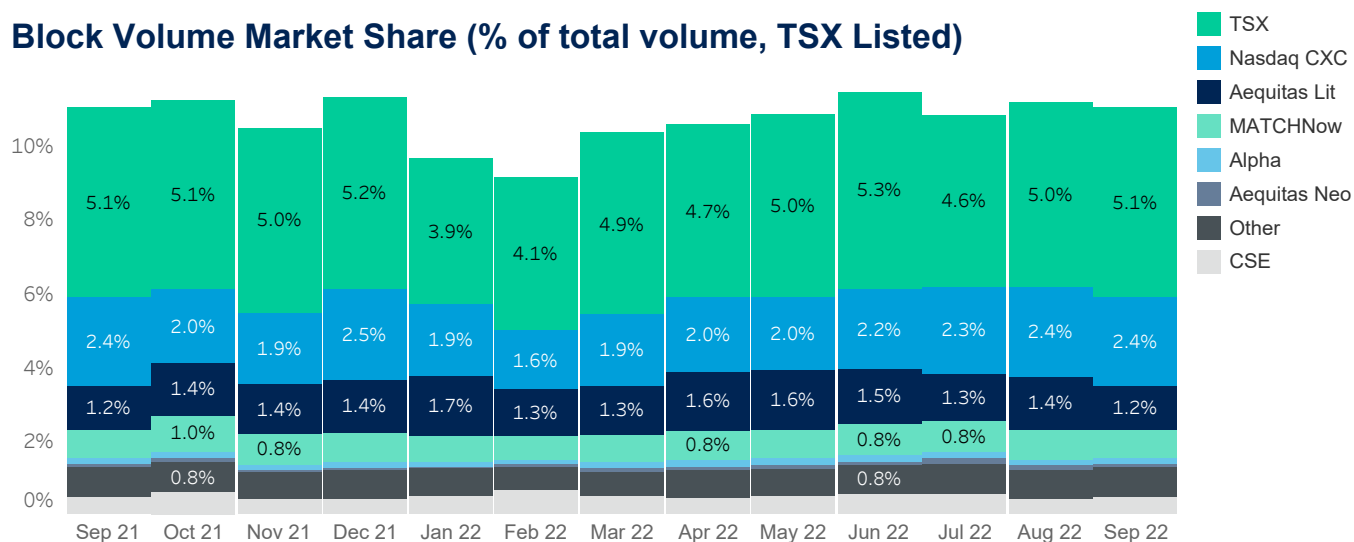
Venue Market Share (Non-TSX-Listed)



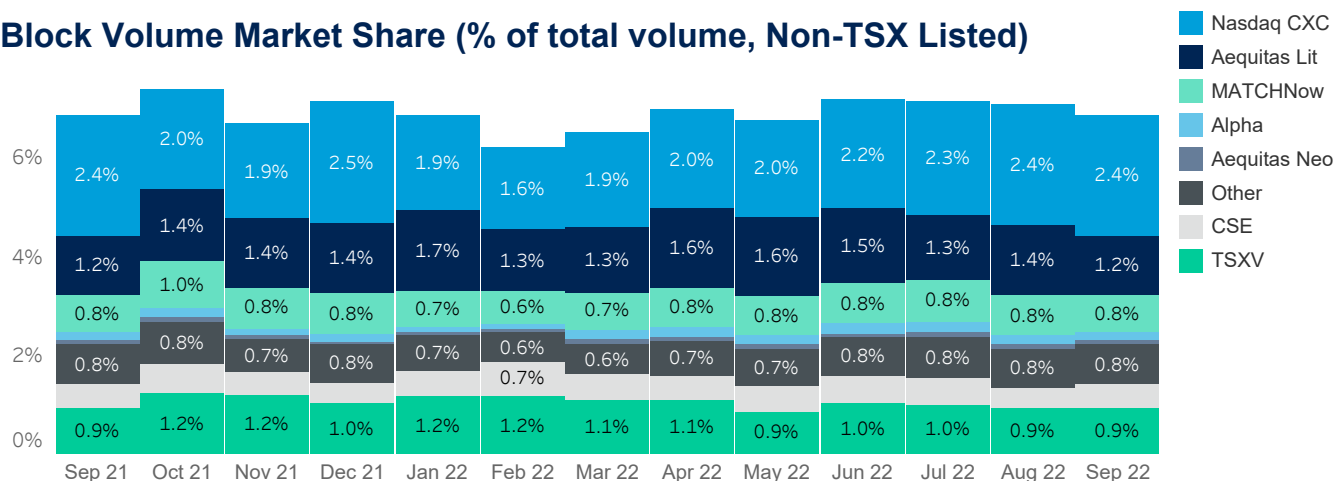
Source data: Virtu Financial



Block Volume Market Share (% of total volume, TSX Listed)

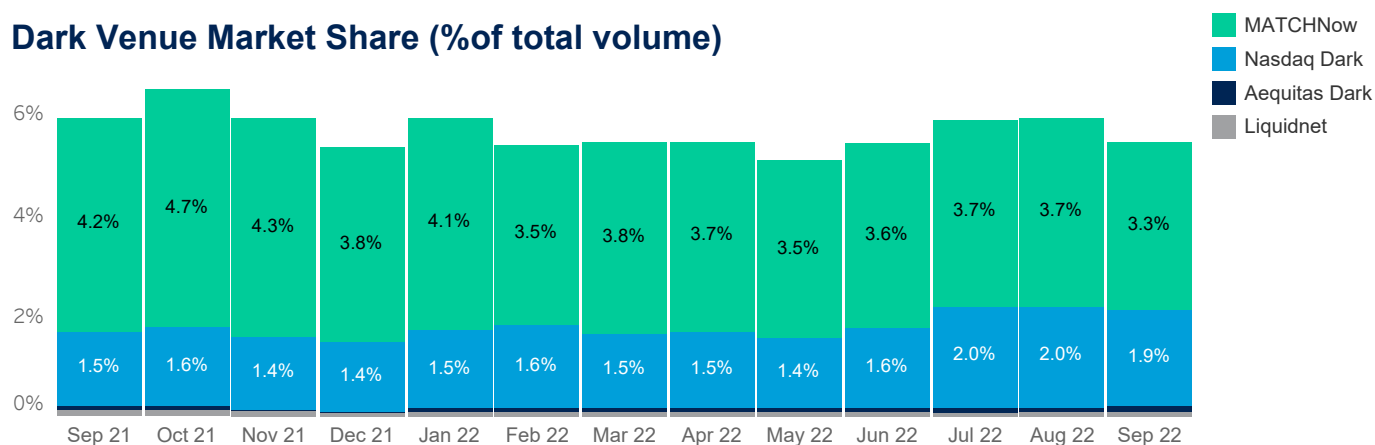


Block Volume Market Share (% of total volume, Non-TSX Listed)



Blocks defined as >5100 shares and > \$30,000 CAD or >=\$100K CAD; Source data: Virtu Financial

Dark Venue Market Share (% of total volume)



TSX listed securities only; Source data: Virtu Financial



Quotesize in Shares

		3Q 21	4Q 21				1Q 22			2Q 22			3Q 22		
		Sep 21	Oct 21	Nov 21	Dec 21	Jan 22	Feb 22	Mar 22	Apr 22	May 22	Jun 22	Jul 22	Aug 22	Sep 22	
First 30 Min	S&P/TSX 60	913	890	835	873	819	760	802	802	775	867	900	806	798	
	S&P/TSX Composite	1,057	1,085	986	1,047	965	879	948	992	957	1,069	1,098	957	944	
	Non-TSX-Listed	6,073	6,360	6,702	5,071	5,189	5,000	6,079	5,540	5,120	4,698	4,334	4,388	4,500	
Mid Day	S&P/TSX 60	1,093	1,100	1,027	1,010	975	928	952	915	912	1,014	1,080	994	972	
	S&P/TSX Composite	1,273	1,314	1,213	1,218	1,157	1,088	1,129	1,133	1,140	1,245	1,312	1,185	1,165	
	Non-TSX-Listed	4,900	5,292	5,000	4,165	4,050	4,265	5,300	5,170	4,828	4,748	4,459	4,771	4,609	
Last 30 Min	S&P/TSX 60	1,299	1,287	1,228	1,138	1,076	1,013	1,035	972	977	1,112	1,211	1,216	1,173	
	S&P/TSX Composite	1,485	1,516	1,444	1,411	1,331	1,257	1,308	1,252	1,238	1,363	1,411	1,399	1,384	
	Non-TSX-Listed	5,904	6,383	5,900	5,000	4,774	4,625	5,606	5,300	5,103	4,752	4,428	4,486	4,394	

Spread Bps

First 30 Min	S&P/TSX 60	5.0	5.0	5.5	5.5	5.6	5.7	6.0	5.9	6.4	6.0	6.5	6.0	5.9
	S&P/TSX Composite	10.9	10.6	10.8	11.4	11.3	11.5	12.0	12.1	14.1	13.3	14.5	13.7	14.1
	Non-TSX-Listed	170.1	170.5	163.9	175.4	172.4	163.1	175.4	170.5	204.9	215.7	229.8	201.2	220.6
Mid Day	S&P/TSX 60	3.2	3.3	3.4	3.4	3.6	3.4	3.6	3.5	4.0	3.8	4.0	3.8	3.9
	S&P/TSX Composite	6.8	7.0	7.2	7.5	7.7	7.5	7.6	7.5	8.9	8.2	8.5	8.1	8.6
	Non-TSX-Listed	128.2	128.6	123.2	122.0	124.2	122.2	132.7	129.0	145.0	152.7	163.9	143.0	148.3
Last 30 Min	S&P/TSX 60	2.5	2.6	2.7	2.9	2.9	2.8	2.7	2.7	3.1	3.0	3.0	2.9	3.0
	S&P/TSX Composite	5.8	6.0	6.3	6.6	6.7	6.7	6.4	6.4	7.4	7.2	7.4	7.1	7.8
	Non-TSX-Listed	129.9	126.8	123.5	125.7	125.5	125.5	133.3	129.0	147.1	144.9	155.4	140.9	140.7

One Minute Volatility Bps

First 30 Min	S&P/TSX 60	11.9	11.7	11.7	13.5	14.0	14.0	15.4	14.4	17.2	15.5	15.9	13.8	14.2
	S&P/TSX Composite	15.7	15.1	15.3	17.5	18.0	18.1	19.1	17.7	21.1	20.0	22.1	18.2	18.6
	Non-TSX-Listed	19.6	17.5	19.9	24.0	24.1	22.7	18.6	21.3	36.5	33.1	30.9	20.9	22.1
Mid Day	S&P/TSX 60	3.7	3.5	3.6	4.5	5.3	4.9	5.4	5.1	7.3	5.8	5.4	4.6	6.0
	S&P/TSX Composite	3.8	3.6	3.9	4.7	5.7	5.5	6.1	5.6	8.2	6.8	6.0	5.1	6.4
	Non-TSX-Listed	6.3	5.8	5.8	7.1	9.2	7.1	6.3	7.2	12.5	9.7	8.0	6.2	6.9
Last 30 Min	S&P/TSX 60	3.5	3.4	3.4	4.6	5.2	5.4	5.2	4.9	7.5	5.8	5.1	4.3	5.9
	S&P/TSX Composite	3.4	3.2	3.4	4.5	5.2	5.4	5.2	5.1	7.4	5.7	4.8	3.9	5.4
	Non-TSX-Listed	6.8	4.9	4.9	6.7	8.6	6.2	5.6	6.6	11.3	7.7	6.4	5.4	6.7

Percent MDV by Time of Day

Open	S&P/TSX 60	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.7%	0.5%	0.6%	0.5%
	S&P/TSX Composite	0.5%	0.6%	0.6%	0.5%	0.5%	0.6%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.4%
	Non-TSX-Listed	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
First 30 Min	S&P/TSX 60	14.6%	13.8%	14.3%	13.5%	13.0%	13.4%	13.6%	12.5%	12.5%	12.4%	13.0%	12.9%	9.7%
	S&P/TSX Composite	14.2%	14.2%	14.3%	13.3%	12.4%	13.4%	13.8%	12.8%	12.6%	12.8%	13.6%	13.4%	11.4%
	Non-TSX-Listed	18.4%	18.8%	19.4%	17.3%	17.4%	17.5%	17.1%	18.0%	18.7%	18.9%	19.8%	20.2%	18.5%
Last 30 Min	S&P/TSX 60	31.6%	29.7%	31.6%	34.0%	33.6%	35.0%	34.6%	38.7%	36.4%	40.9%	36.1%	36.8%	36.3%
	S&P/TSX Composite	22.7%	21.9%	23.4%	25.1%	22.9%	26.0%	25.1%	25.1%	26.5%	24.6%	26.2%	25.7%	26.2%
	Non-TSX-Listed	8.7%	8.1%	8.3%	8.0%	8.4%	8.9%	8.2%	7.6%	7.2%	7.2%	6.7%	6.7%	6.9%
Close	S&P/TSX 60	6.5%	7.3%	6.4%	6.8%	6.7%	7.5%	6.9%	7.8%	6.7%	7.3%	7.4%	7.4%	16.3%
	S&P/TSX Composite	3.2%	3.7%	3.6%	3.5%	3.6%	4.0%	3.8%	4.3%	3.9%	4.5%	4.5%	4.5%	6.6%
	Non-TSX-Listed	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

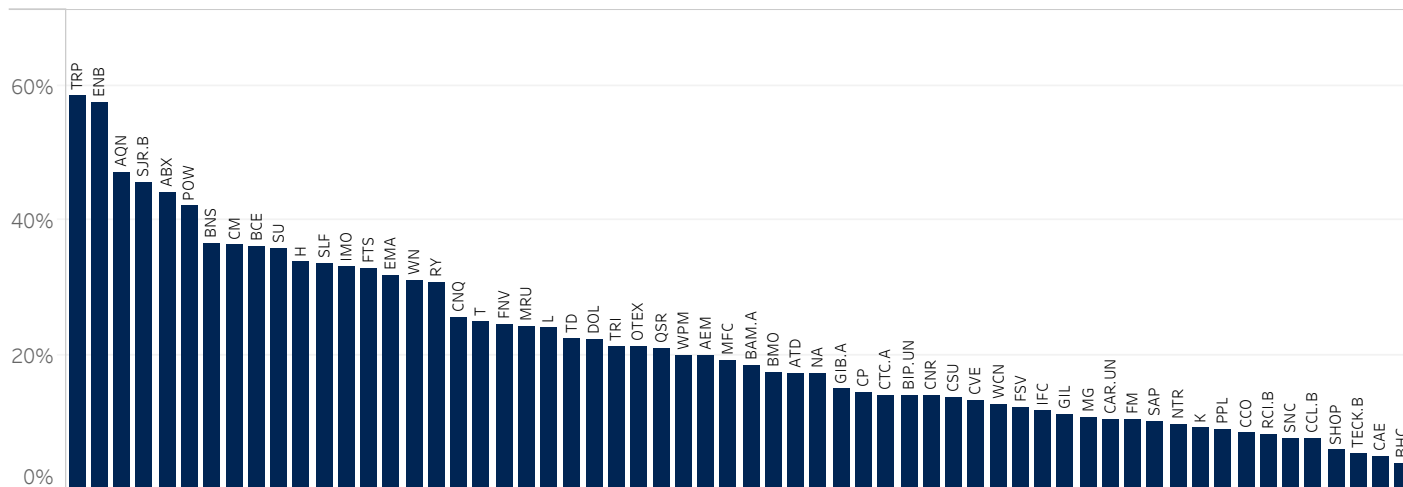
Median used for all metrics

One minute volatility is calculated using the difference between the high and low price within a one minute time bin, divided by that bin's VWAP

Source data: Virtu Financial



September 2022 Median MOC % of Daily Volume - S&P/TSX 60



Source data: Virtu Financial



ABOUT VIRTU

Virtu is a leading financial services firm that leverages cutting-edge technology to provide execution services and data, analytics and connectivity products to its clients and deliver liquidity to the global markets. Leveraging its global market making expertise and infrastructure, Virtu provides a robust product suite including offerings in execution, liquidity sourcing, analytics and broker-neutral, multi-dealer platforms in workflow technology. Virtu's product offerings allow clients to trade on hundreds of venues across 50+ countries and in multiple asset classes, including global equities, ETFs, foreign exchange, futures, fixed income and myriad other commodities. In addition, Virtu's integrated, multi-asset analytics platform provides a range of pre and post-trade services, data products and compliance tools that clients rely upon to invest, trade and manage risk across global markets.

To learn more, contact your sales representative or call our desk at:

APAC+852.2846.3553 | **CAN**+1.416.874.0800 | **EMEA**+44.20.7670.4066 | **US**+1.646.682.6199
info@virtu.com | www.virtu.com

© 2021 Virtu Financial, Inc. All rights reserved. Not to be reproduced or retransmitted without permission. These materials are for informational purposes and are not intended to be used to make trading or investment decisions, they are not intended as an offer to sell or the solicitation of an offer to buy any security or financial product, and are not intended as advice (investment, tax or legal). The information contained herein includes Virtu proprietary information and/or has been taken from sources we believe to be reliable, but we do not represent or warrant that such information is accurate or complete and it should not be relied upon as such.

Analytics products and services referenced herein may not be subject to oversight by regulatory authorities in one or more jurisdictions, including in Europe, where such products and services are offered by Virtu ITG Ventures Limited, registered in Ireland No. 295549 ("VIVL"). VIVL does not engage in regulated activity.

Securities products and services are offered by the following subsidiaries of Virtu Financial, Inc. In the U.S., Virtu Americas LLC, member FINRA and SIPC; in Canada, Virtu ITG Canada Corp., member Canadian Investor Protection Fund and Investment Industry Regulatory Organization of Canada; in Europe, Virtu ITG Europe Limited, registered in Ireland No. 283940 ("VIEL") (VIEL is authorized and regulated by the Central Bank of Ireland), and Virtu Financial Ireland Limited, registered in Ireland No. 471719 ("VFIL") (VFIL is authorized and regulated by the Central Bank of Ireland). The registered office of VIEL and VFIL is Whitaker Court, Whitaker Square, Sir John Rogerson's Quay, Dublin 2, Ireland; in Asia, Virtu ITG Hong Kong Limited (SFC License No. AHD810), Virtu ITG Singapore Pte Limited (CMS License No. 100138-1), and Virtu ITG Australia Limited (AFS License No. 219582).