Dec 2023

CA Market Structure Monthly

MICROSTRUCTURE OBSERVATIONS

- In TSX-listed securities, the average daily volume was 696 million shares in December 2023, up 13% compared November 2023 and down 1% compared to December 2022. Average quote sizes, spread, and volatility conditions improved compared to November 2023.

- In non TSX-listed securities, the average daily volume was 338 million shares in December 2023, up 23% compared to November 2023 and down 7% compared to December 2022. Non TSX-listed securities saw improved average quote size, spread, and volatility compared to November 2023.

CA MARKET STRUCTURE NEWS

Publication of Amendments to National Instrument 24-101 and Changes to Companion Policy

On December 14, 2023, the Canadian Securities Administrators (CSA) announced the final amendments to National Instrument 24-101 Institutional Trade Matching and Settlement, along with changes to its Companion Policy.

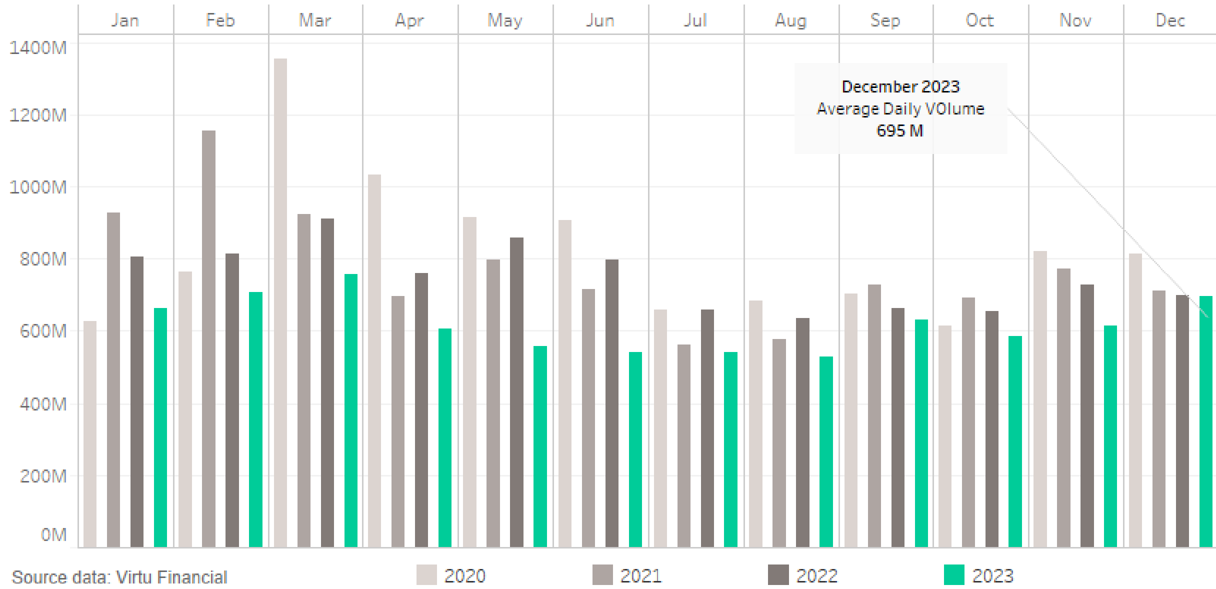
These amendments signify a transition from the current settlement cycle of two days after the trade date (T+2) to one day after the trade date (T+1). The move to a T+1 settlement cycle in Canada is scheduled for May 27, 2024, aligning with the effective date of the amendments and coincides with the United States' shift to T+1 and associated regulatory changes. Due to a statutory holiday in the United States, the Canadian changeover will precede the U.S. market and regulatory adjustments by one day.

Originally proposing an institutional trade-matching (ITM) deadline of 9 p.m. Eastern Time on T, industry feedback led to a revision. The ITM deadline is now set at 3:59 a.m. Eastern Time on T+1, addressing the preference expressed in comment letters and industry consultations.

Pending necessary approvals, these amendments will take effect on May 27, 2024, across all CSA jurisdictions.

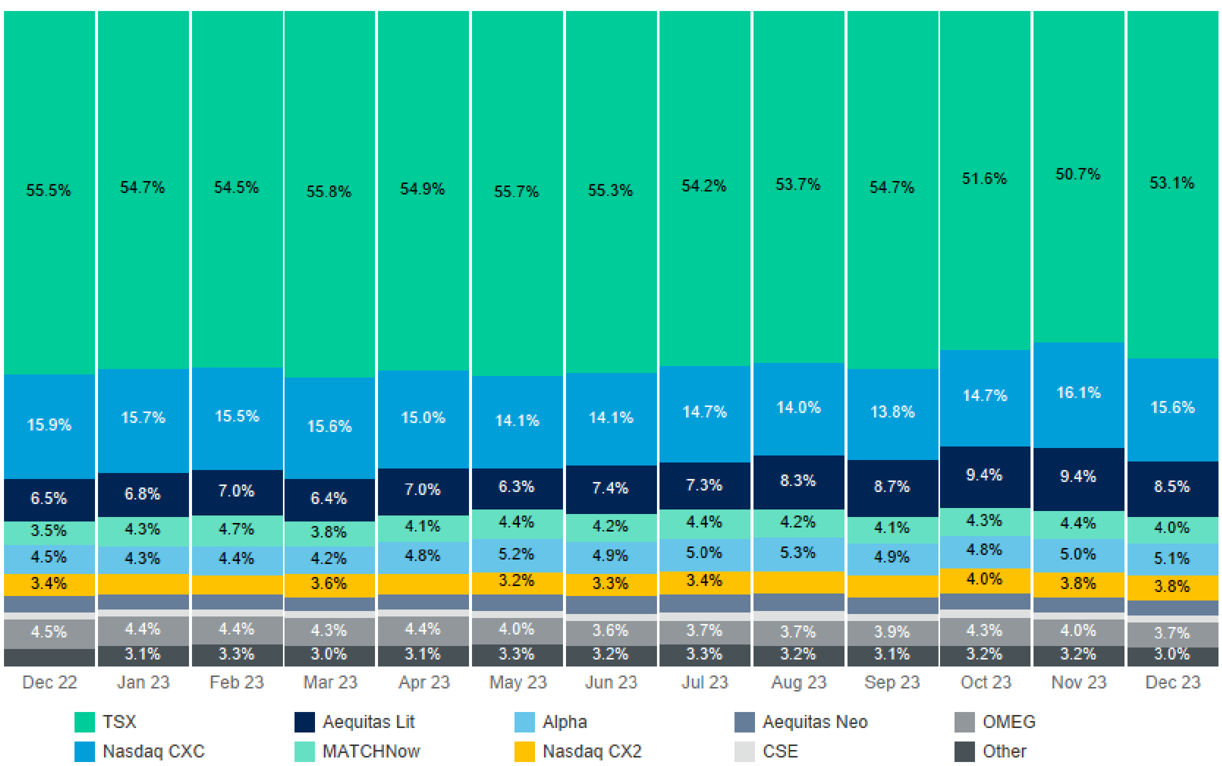
Please refer to the link below for further details on the final amendments:
https://www.osc.ca/en/securities-law/instruments-rules-policies/2/24-101/csa-notice-amendments-national-instrument-24-101-institutional-trade-matching-and-settlement-and

Average Daily Market Volume (Shares, TSX Listed)



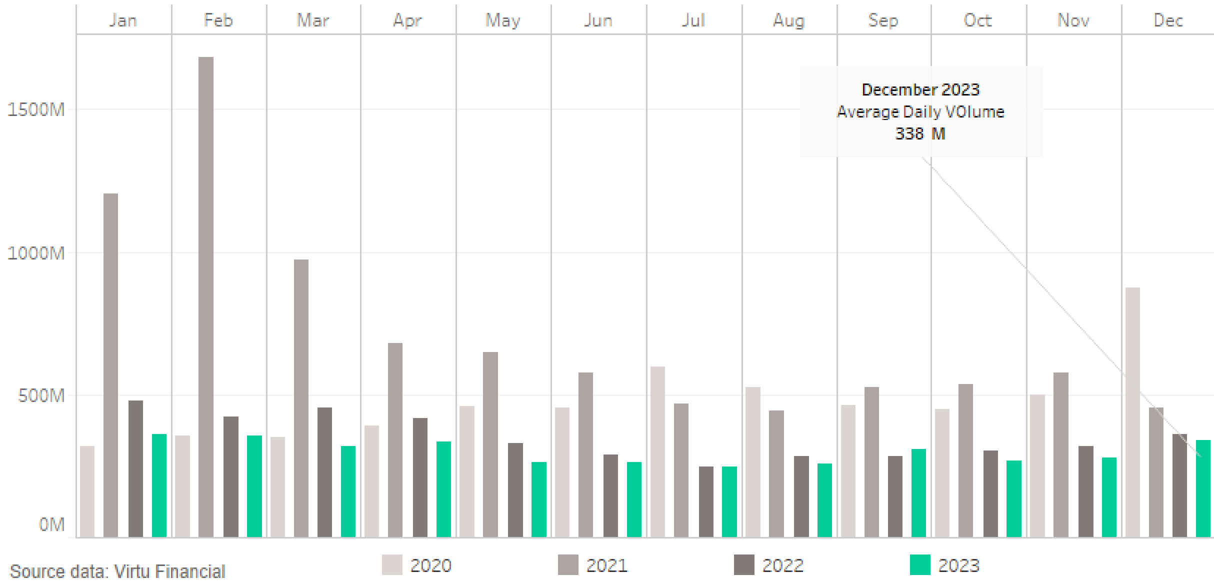
Source data: Virtu Financial

Venue Market Share (TSX Listed)



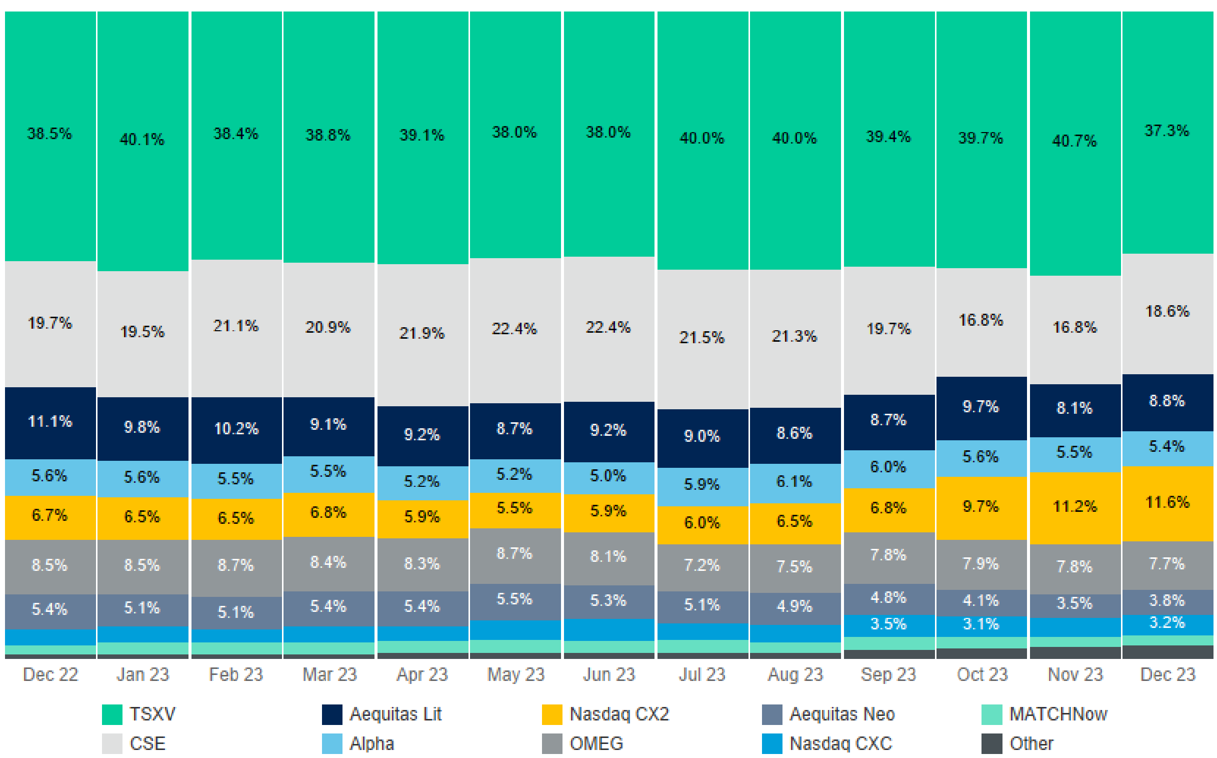
Source data: Virtu Financial

Average Daily Market Volume (Shares, Non-TSX Listed)



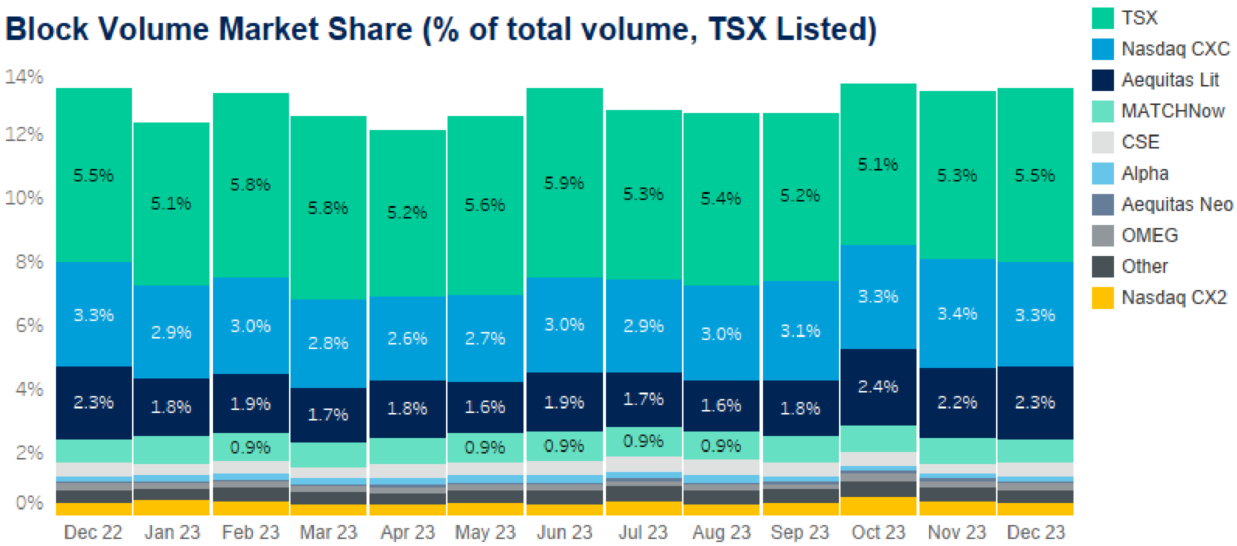
Source data: Virtu Financial

Venue Market Share (Non-TSX Listed)

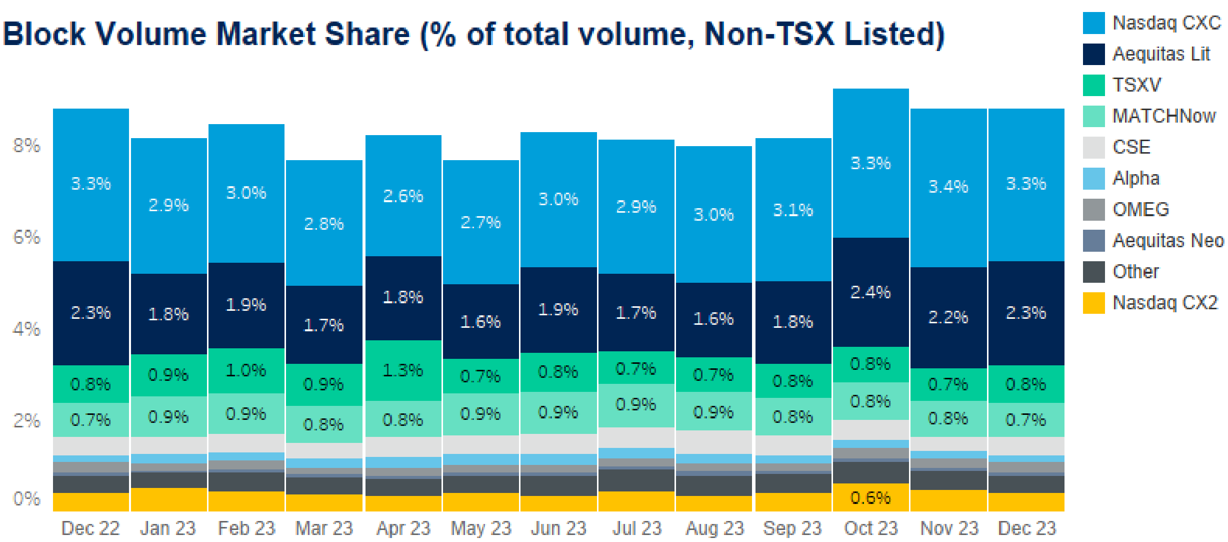


Source data: Virtu Financial

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

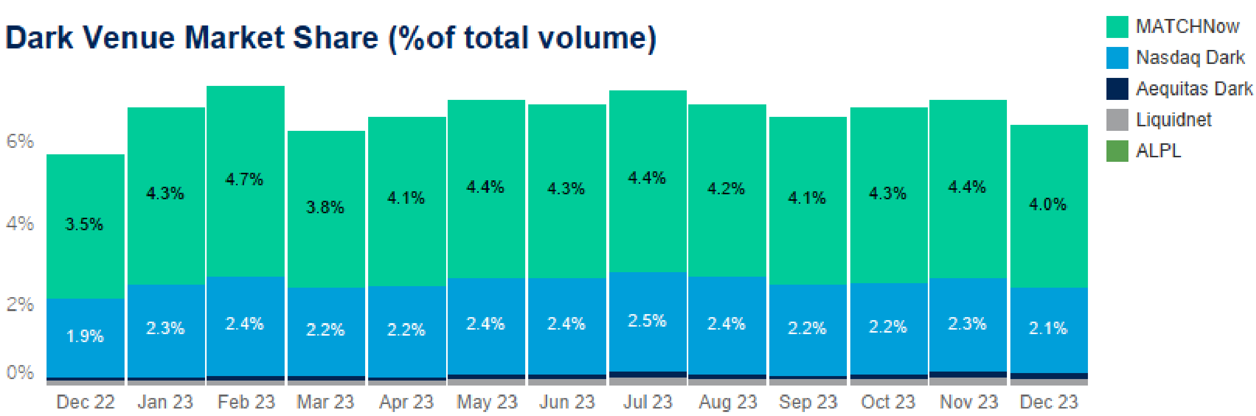


Block Volume Market Share (% of total volume, Non-TSX Listed)



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

		4Q 22	1Q 23			2Q 23			3Q 23			4Q 23		
		Dec 22	Jan 23	Feb 23	Mar 23	Apr 23	May 23	Jun 23	Jul 23	Aug 23	Sep 23	Oct 23	Nov 23	Dec 23
First 30 Min	S&P/TSX 60	916	854	798	840	892	877	889	897	895	911	865	875	932
	S&P/TSX Composite	1,110	1,130	1,012	1,074	1,127	1,090	1,096	1,047	1,021	1,030	1,020	1,032	1,085
	Non-TSX-Listed	4,969	4,945	4,969	4,763	6,191	5,930	5,259	5,021	5,261	6,182	5,950	5,650	6,074
Mid Day	S&P/TSX 60	1,057	1,025	953	1,017	1,104	1,106	1,112	1,114	1,100	1,115	1,094	1,082	1,138
	S&P/TSX Composite	1,338	1,365	1,235	1,305	1,441	1,372	1,374	1,336	1,264	1,290	1,251	1,238	1,305
	Non-TSX-Listed	4,650	4,650	4,477	4,464	5,650	5,631	5,000	4,583	4,875	5,498	5,281	5,258	5,736
Last 30 Min	S&P/TSX 60	1,165	1,192	1,084	1,150	1,222	1,191	1,209	1,280	1,245	1,268	1,215	1,219	1,301
	S&P/TSX Composite	1,500	1,586	1,443	1,519	1,627	1,557	1,556	1,602	1,528	1,547	1,521	1,530	1,658
	Non-TSX-Listed	4,586	4,582	4,634	4,803	5,988	5,747	5,000	4,456	4,781	5,494	5,308	5,661	6,413

Spread Bps

		Dec 22	Jan 23	Feb 23	Mar 23	Apr 23	May 23	Jun 23	Jul 23	Aug 23	Sep 23	Oct 23	Nov 23	Dec 23
First 30 Min	S&P/TSX 60	6.2	6.2	6.1	6.1	5.3	6.2	6.3	5.8	6.3	6.3	6.9	6.7	6.2
	S&P/TSX Composite	13.4	13.4	13.3	13.5	11.8	12.8	12.5	12.0	12.5	12.5	13.9	14.0	13.2
	Non-TSX-Listed	215.1	210.5	203.5	212.6	198.5	184.3	192.3	182.5	180.4	186.6	190.4	188.4	188.7
Mid Day	S&P/TSX 60	3.7	3.6	3.7	3.7	3.3	3.8	3.8	3.5	3.9	3.9	4.2	4.0	3.8
	S&P/TSX Composite	8.3	8.5	8.4	8.3	7.6	8.2	8.1	7.7	8.1	8.2	9.4	9.2	8.8
	Non-TSX-Listed	157.1	149.3	137.1	149.3	138.9	126.0	130.7	124.2	124.9	120.5	124.5	126.8	128.1
Last 30 Min	S&P/TSX 60	2.8	2.8	2.9	2.8	2.5	2.8	2.8	2.6	2.7	2.8	3.0	2.8	2.7
	S&P/TSX Composite	7.2	7.5	7.4	7.3	6.9	7.2	7.4	7.0	7.3	7.5	8.1	7.6	7.5
	Non-TSX-Listed	144.6	137.8	135.0	140.4	133.3	122.8	127.5	123.6	121.2	119.7	126.6	125.0	126.6

One Minute Volatility Bps

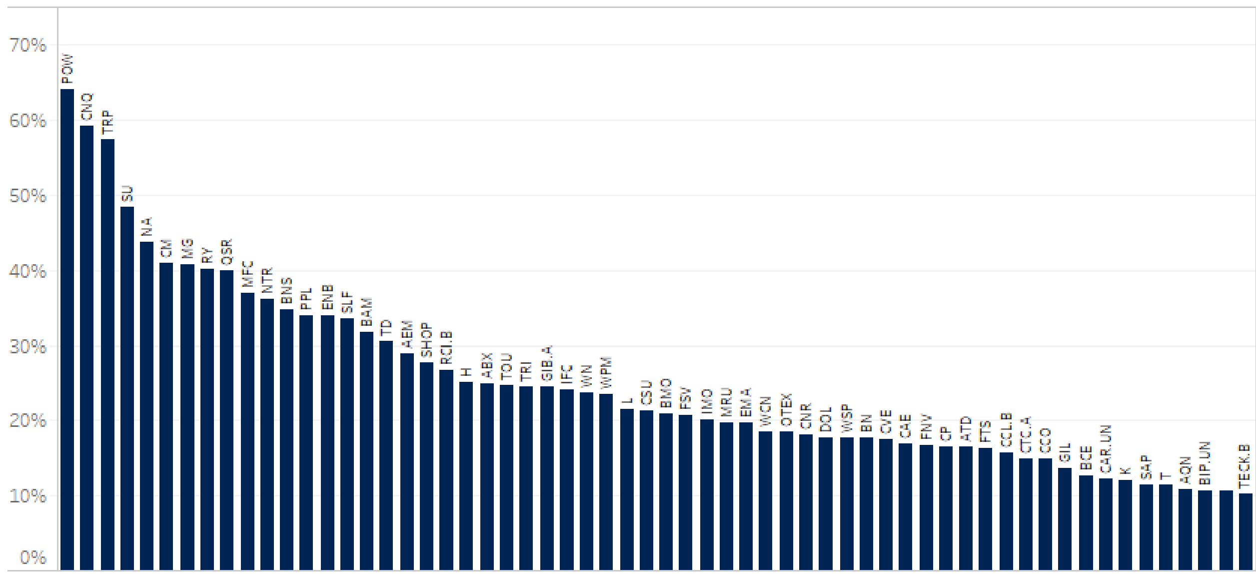
		Dec 22	Jan 23	Feb 23	Mar 23	Apr 23	May 23	Jun 23	Jul 23	Aug 23	Sep 23	Oct 23	Nov 23	Dec 23
First 30 Min	S&P/TSX 60	13.5	11.9	12.1	13.6	11.0	11.8	10.6	9.9	10.9	10.7	14.0	12.3	11.2
	S&P/TSX Composite	16.6	15.0	15.4	17.4	13.5	14.2	12.4	11.9	13.0	12.5	16.2	14.8	13.6
	Non-TSX-Listed	22.8	17.7	17.9	21.4	15.7	15.1	13.6	13.0	14.6	15.6	17.0	15.6	12.0
Mid Day	S&P/TSX 60	4.7	4.0	4.4	5.5	3.7	4.2	3.5	3.2	4.0	3.8	5.2	4.2	4.0
	S&P/TSX Composite	4.8	4.0	4.3	5.7	3.4	3.9	2.9	2.7	3.5	3.3	4.8	4.0	3.8
	Non-TSX-Listed	5.7	4.5	5.3	7.3	5.0	4.8	4.4	4.4	5.0	4.8	6.0	4.3	3.9
Last 30 Min	S&P/TSX 60	4.9	4.0	4.7	5.1	3.8	4.2	3.7	3.4	3.7	3.8	4.5	4.1	4.1
	S&P/TSX Composite	4.4	3.7	4.3	4.7	3.1	3.6	3.0	2.6	3.0	3.1	4.0	3.8	3.6
	Non-TSX-Listed	5.4	3.8	4.7	6.2	4.0	4.0	3.5	2.9	3.8	3.9	4.4	3.4	3.7

Percent MDV by Time of Day

		Dec 22	Jan 23	Feb 23	Mar 23	Apr 23	May 23	Jun 23	Jul 23	Aug 23	Sep 23	Oct 23	Nov 23	Dec 23
Open	S&P/TSX 60	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.4%	0.5%	0.4%	0.5%	0.5%	0.5%	0.5%
	S&P/TSX Composite	0.4%	0.4%	0.5%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.4%	0.5%
	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	10.1%	8.9%	9.7%	9.5%	9.4%	9.9%	8.9%	8.9%	8.9%	8.1%	8.8%	8.6%	8.5%
	S&P/TSX Composite	10.5%	10.1%	10.8%	10.2%	10.0%	10.6%	10.1%	9.9%	9.8%	9.0%	9.8%	9.7%	9.6%
	Non-TSX-Listed	17.5%	17.6%	17.0%	18.0%	18.0%	16.4%	17.4%	18.8%	19.2%	17.7%	16.8%	18.2%	16.9%
Last 30 Min	S&P/TSX 60	13.6%	13.3%	13.1%	13.5%	13.1%	15.0%	14.5%	14.1%	14.3%	14.4%	14.6%	14.7%	13.2%
	S&P/TSX Composite	13.6%	13.8%	13.7%	13.9%	13.4%	14.5%	14.6%	14.3%	14.7%	14.6%	15.0%	15.3%	14.8%
	Non-TSX-Listed	10.8%	10.3%	11.3%	10.8%	10.0%	10.7%	11.3%	12.1%	12.4%	12.4%	12.1%	11.8%	11.2%
Close	S&P/TSX 60	18.2%	15.2%	18.5%	18.1%	19.3%	13.8%	19.1%	19.9%	19.3%	21.5%	15.1%	15.3%	20.5%
	S&P/TSX Composite	7.2%	6.3%	8.1%	7.7%	9.1%	6.9%	8.7%	8.2%	7.5%	9.0%	6.7%	6.9%	8.4%
	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%

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

December 2023 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 +852.2846.3592 | **CAN** +1.416.874.0800 | **EMEA** +44.20.7670.4066 | **US** +1.646.682.6199
info@virtu.com | www.virtu.com