January 2024

CA Market Structure Monthly

MICROSTRUCTURE OBSERVATIONS

- In TSX-listed securities, the average daily volume was 579 million shares in January 2024, down 17% compared to December 2023 and down 13% compared to January 2023. While volatility conditions improved, average quote sizes and spread conditions deteriorated compared to December 2023.

- In non TSX-listed securities, the average daily volume was 314 million shares in January 2024, down 7% compared to December 2023 and down 13% compared to January 2023. While non TSX-listed securities saw improved spread conditions, average quote size and volatility conditions deteriorated compared to December 2023.

CA MARKET STRUCTURE NEWS

Derivates Rules Modernization – Stage 1

On January 18, 2024, as part of a multi-phased approach, the CSA approved the first stage of amendments to modernize and simplify the Investment Dealer and Partially Consolidated Rules (IDPC Rules) derivative-related requirements. The Amendments will be effective September 28, 2024.

Please consult the link below to view the publication of the Proposed Derivatives Rule Modernization:

https://www.ciro.ca/news-room/publications/re-publication-proposed-derivatives-rule-modernization-stage-1

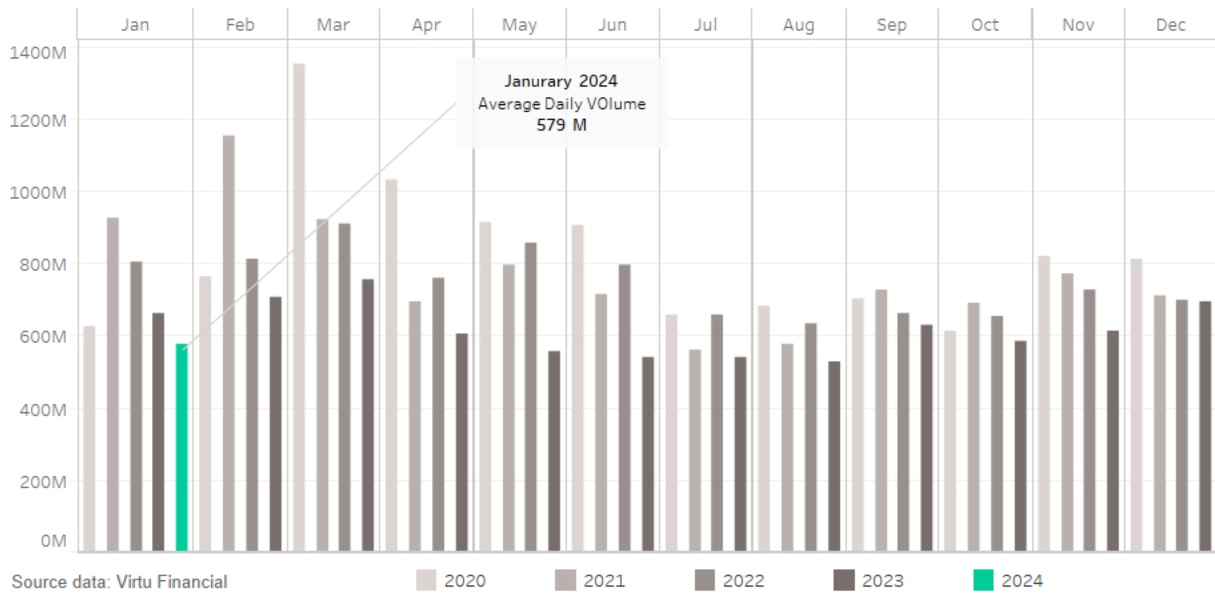
CSA Notice and Request for Comment – Proposed Amendments to National Instrument 81-102 Investment Funds Pertaining to Crypto Assets

On Jan 18, 2024, The Canadian Securities Administrators (CSA) published for comment a set of proposed regulatory requirements for public investment funds that seek to invest in crypto assets. Stakeholders are invited to provide comments in writing on or before April 17, 2024.

The proposed amendments are the second phase of a project to tailor requirements for public investment funds investing in crypto assets to better protect investors and reduce risk. Requirements include crypto asset investment restrictions and custodial obligations. In the third phase, the CSA will consult publicly on a broader framework.

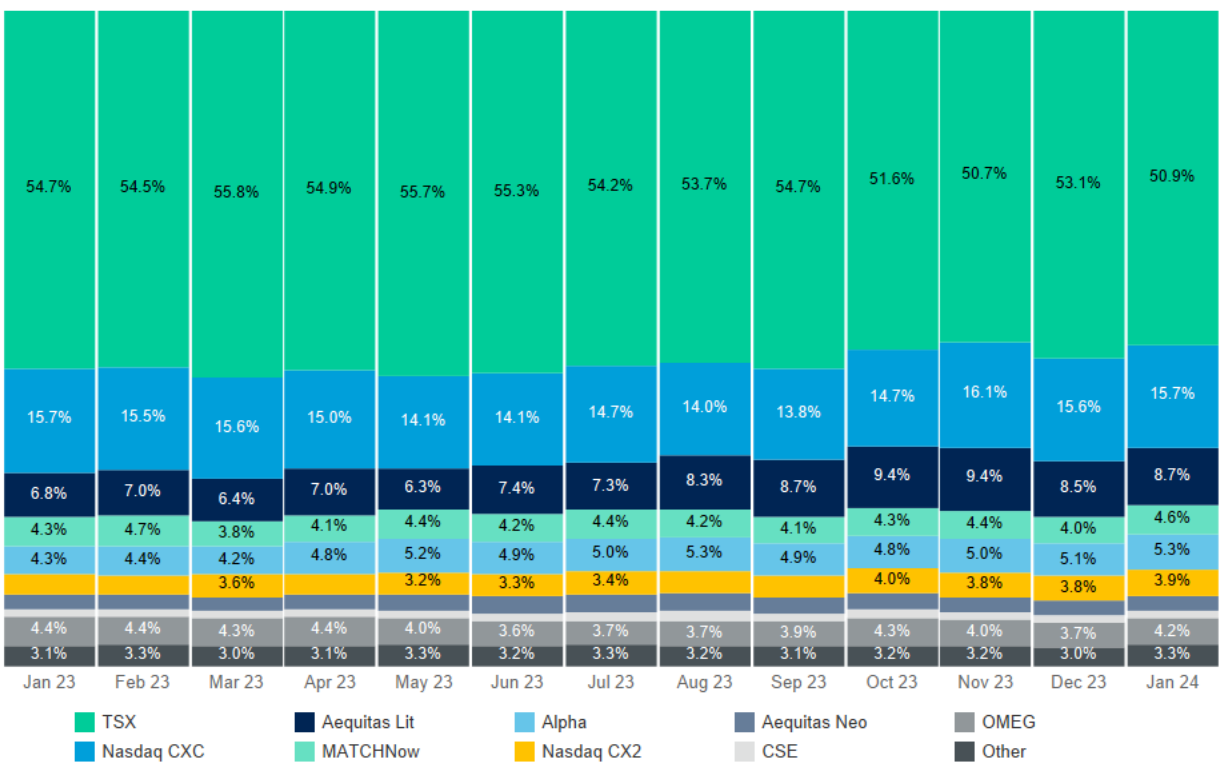
Please consult the link below for further details on the proposed amendments:
https://www.osc.ca/en/securities-law/instruments-rules-policies/8/81-102-81-102cp/csa-notice-and-request-comment-proposed-amendments-national-instrument-81-102-0

Average Daily Market Volume (Shares, TSX Listed)



Source data: Virtu Financial

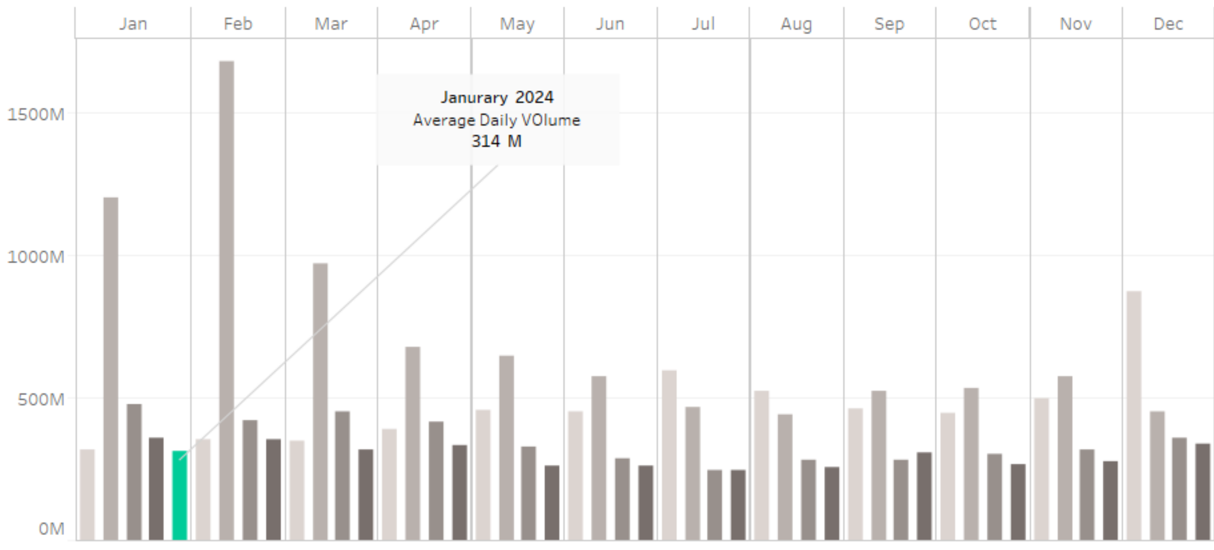
Venue Market Share (TSX Listed)



Source data: Virtu Financial

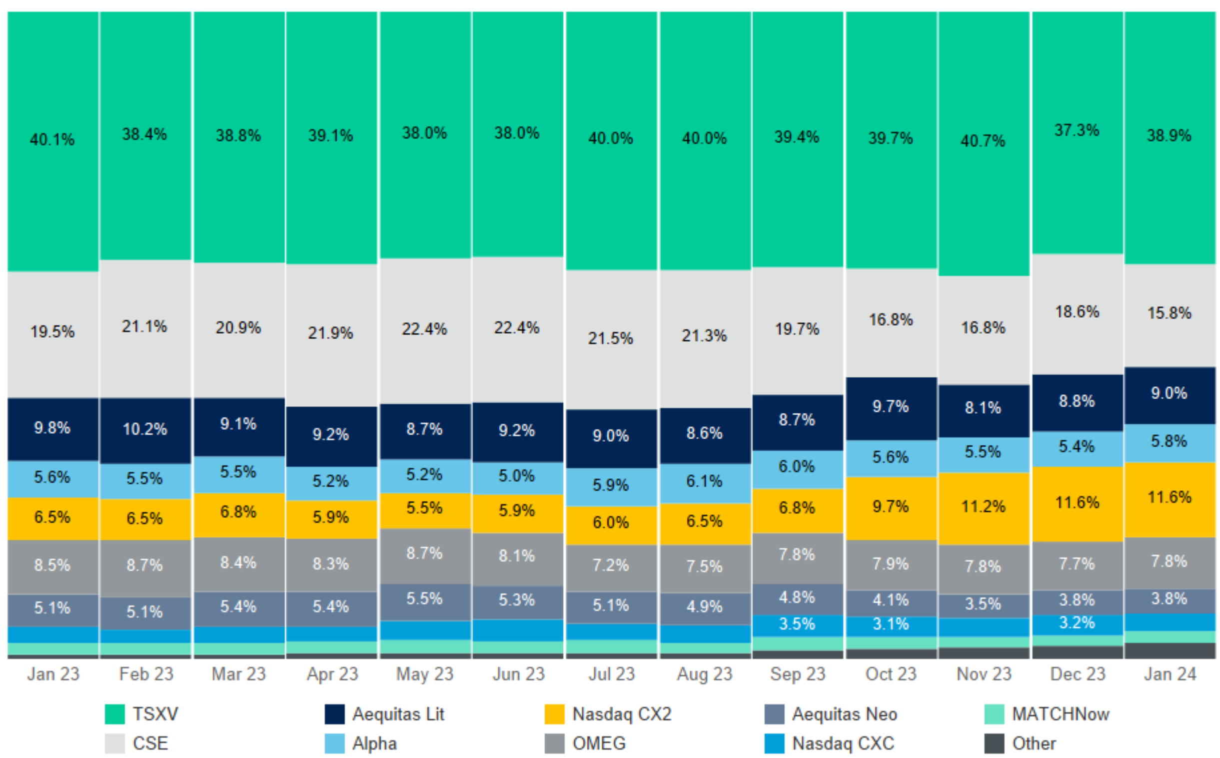
VIRTU FINANCIAL

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



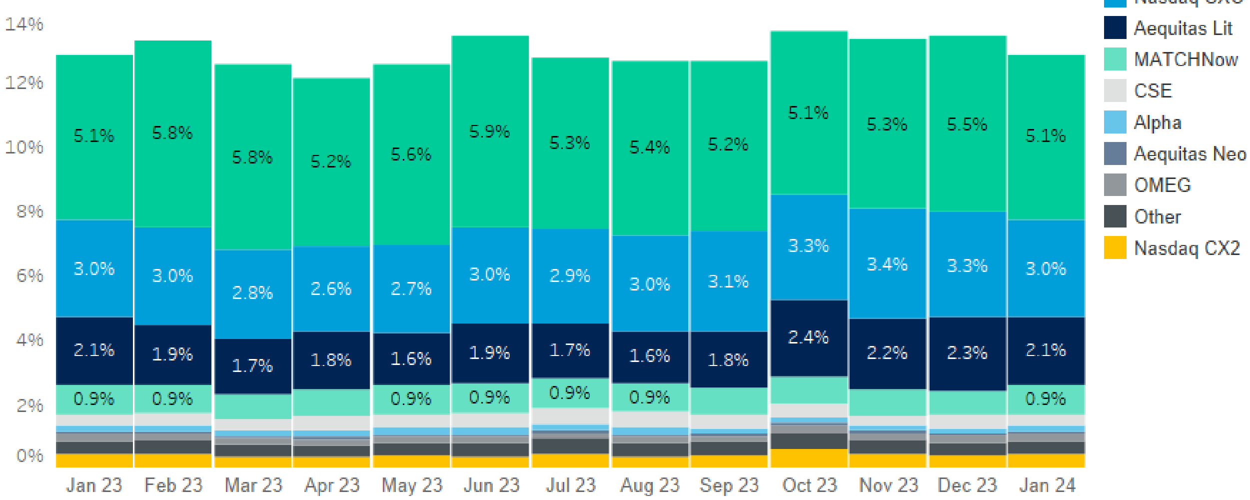
Source data: Virtu Financial

Venue Market Share (Non-TSX Listed)

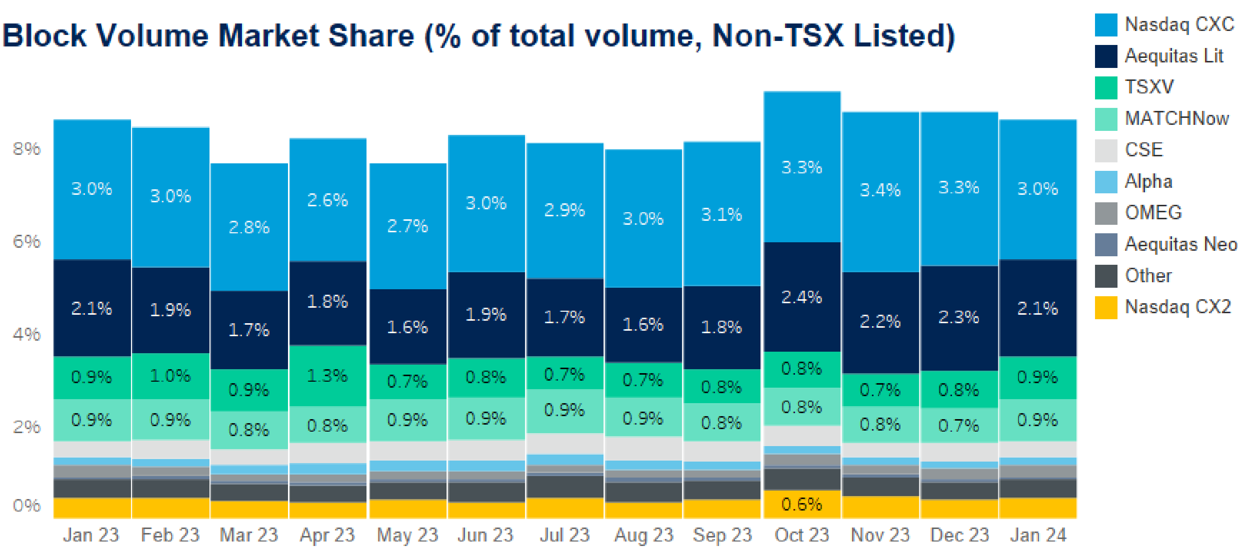


Source data: Virtu Financial

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

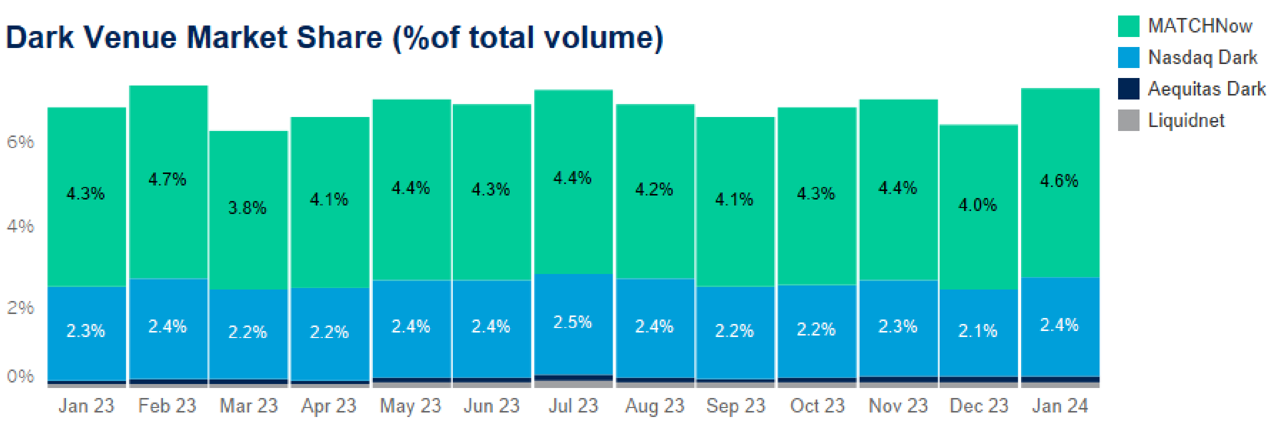


Block Volume Market Share (% of total volume, Non-TSX Listed)



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

		1Q 23			2Q 23			3Q 23			4Q 23			1Q 24
		Jan 23	Feb 23	Mar 23	Apr 23	May 23	Jun 23	Jul 23	Aug 23	Sep 23	Oct 23	Nov 23	Dec 23	Jan 24
First 30 Min	S&P/TSX 60	854	798	840	892	877	889	897	895	911	865	875	932	938
	S&P/TSX Composite	1,130	1,012	1,074	1,127	1,090	1,096	1,047	1,021	1,030	1,020	1,032	1,085	1,076
	Non-TSX-Listed	4,945	4,969	4,763	6,191	5,930	5,259	5,021	5,261	6,182	5,950	5,650	6,074	6,193
Mid Day	S&P/TSX 60	1,025	953	1,017	1,104	1,106	1,112	1,114	1,100	1,115	1,094	1,082	1,138	1,129
	S&P/TSX Composite	1,365	1,235	1,305	1,441	1,372	1,374	1,336	1,264	1,290	1,251	1,238	1,305	1,275
	Non-TSX-Listed	4,650	4,477	4,464	5,650	5,631	5,000	4,583	4,875	5,498	5,281	5,258	5,736	5,518
Last 30 Min	S&P/TSX 60	1,192	1,084	1,150	1,222	1,191	1,209	1,280	1,245	1,268	1,215	1,219	1,301	1,242
	S&P/TSX Composite	1,586	1,443	1,519	1,627	1,557	1,556	1,602	1,528	1,547	1,521	1,530	1,658	1,538
	Non-TSX-Listed	4,582	4,634	4,803	5,988	5,747	5,000	4,456	4,781	5,494	5,308	5,661	6,413	6,251

Spread Bps

First 30 Min	S&P/TSX 60	6.2	6.1	6.1	5.3	6.2	6.3	5.8	6.3	6.3	6.9	6.7	6.2	6.3
	S&P/TSX Composite	13.4	13.3	13.5	11.8	12.8	12.5	12.0	12.5	12.5	13.9	14.0	13.2	13.2
	Non-TSX-Listed	210.5	203.5	212.6	198.5	184.3	192.3	182.5	180.4	186.6	190.4	188.4	188.7	164.0
Mid Day	S&P/TSX 60	3.6	3.7	3.7	3.3	3.8	3.8	3.5	3.9	3.9	4.2	4.0	3.8	3.9
	S&P/TSX Composite	8.5	8.4	8.3	7.6	8.2	8.1	7.7	8.1	8.2	9.4	9.2	8.8	8.8
	Non-TSX-Listed	149.3	137.1	149.3	138.9	126.0	130.7	124.2	124.9	120.5	124.5	126.8	128.1	113.7
Last 30 Min	S&P/TSX 60	2.8	2.9	2.8	2.5	2.8	2.8	2.6	2.7	2.8	3.0	2.8	2.7	2.8
	S&P/TSX Composite	7.5	7.4	7.3	6.9	7.2	7.4	7.0	7.3	7.5	8.1	7.6	7.5	7.7
	Non-TSX-Listed	137.8	135.0	140.4	133.3	122.8	127.5	123.6	121.2	119.7	126.6	125.0	126.6	116.3

One Minute Volatility Bps

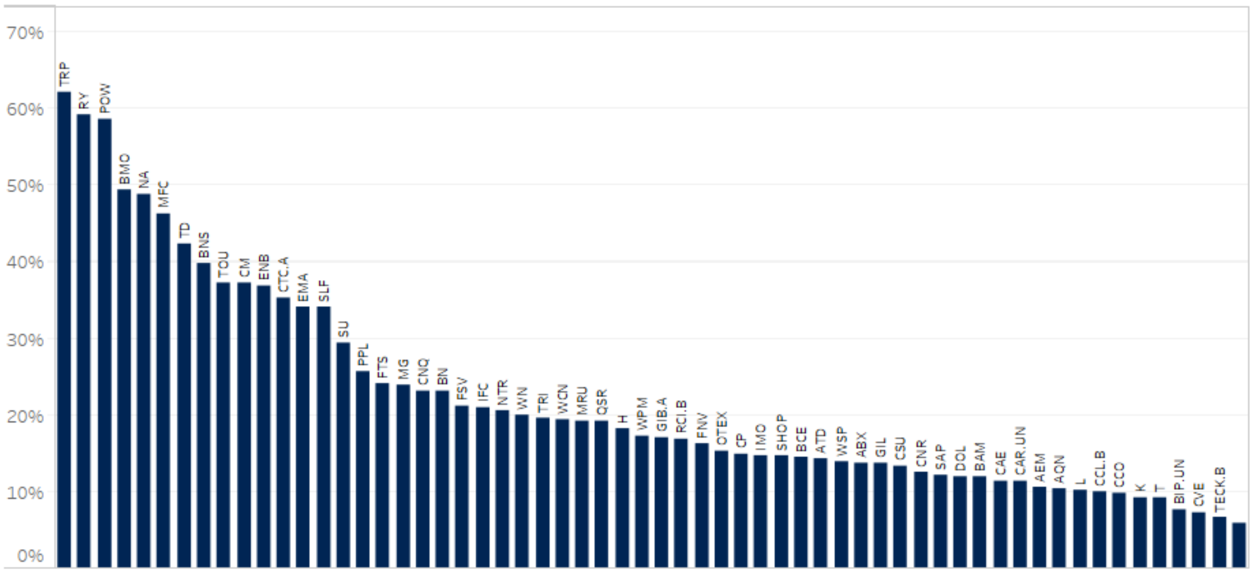
First 30 Min	S&P/TSX 60	11.9	12.1	13.6	11.0	11.8	10.6	9.9	10.9	10.7	14.0	12.3	11.2	10.8
	S&P/TSX Composite	15.0	15.4	17.4	13.5	14.2	12.4	11.9	13.0	12.5	16.2	14.8	13.6	13.2
	Non-TSX-Listed	17.7	17.9	21.4	15.7	15.1	13.6	13.0	14.6	15.6	17.0	15.6	12.0	13.1
Mid Day	S&P/TSX 60	4.0	4.4	5.5	3.7	4.2	3.5	3.2	4.0	3.8	5.2	4.2	4.0	3.6
	S&P/TSX Composite	4.0	4.3	5.7	3.4	3.9	2.9	2.7	3.5	3.3	4.8	4.0	3.8	3.4
	Non-TSX-Listed	4.5	5.3	7.3	5.0	4.8	4.4	4.4	5.0	4.8	6.0	4.3	3.9	3.8
Last 30 Min	S&P/TSX 60	4.0	4.7	5.1	3.8	4.2	3.7	3.4	3.7	3.8	4.5	4.1	4.1	3.7
	S&P/TSX Composite	3.7	4.3	4.7	3.1	3.6	3.0	2.6	3.0	3.1	4.0	3.8	3.6	3.2
	Non-TSX-Listed	3.8	4.7	6.2	4.0	4.0	3.5	2.9	3.8	3.9	4.4	3.4	3.7	3.5

Percent MDV by Time of Day

Open	S&P/TSX 60	0.5%	0.5%	0.5%	0.5%	0.5%	0.4%	0.5%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%
	S&P/TSX Composite	0.4%	0.5%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.4%	0.5%	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	8.9%	9.7%	9.5%	9.4%	9.9%	8.9%	8.9%	8.9%	8.1%	8.8%	8.6%	8.5%	8.2%
	S&P/TSX Composite	10.1%	10.8%	10.2%	10.0%	10.6%	10.1%	9.9%	9.8%	9.0%	9.8%	9.7%	9.6%	9.4%
	Non-TSX-Listed	17.6%	17.0%	18.0%	18.0%	16.4%	17.4%	18.8%	19.2%	17.7%	16.8%	18.2%	16.9%	18.5%
Last 30 Min	S&P/TSX 60	13.3%	13.1%	13.5%	13.1%	15.0%	14.5%	14.1%	14.3%	14.4%	14.6%	14.7%	13.2%	14.0%
	S&P/TSX Composite	13.8%	13.7%	13.9%	13.4%	14.5%	14.6%	14.3%	14.7%	14.6%	15.0%	15.3%	14.8%	14.7%
	Non-TSX-Listed	10.3%	11.3%	10.8%	10.0%	10.7%	11.3%	12.1%	12.4%	12.4%	12.1%	11.8%	11.2%	11.3%
Close	S&P/TSX 60	15.2%	18.5%	18.1%	19.3%	13.8%	19.1%	19.9%	19.3%	21.5%	15.1%	15.3%	20.5%	17.9%
	S&P/TSX Composite	6.3%	8.1%	7.7%	9.1%	6.9%	8.7%	8.2%	7.5%	9.0%	6.7%	6.9%	8.4%	7.4%
	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

January 2024 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.

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