May 2024

CA Market Structure Monthly

MICROSTRUCTURE OBSERVATIONS

- In TSX-listed securities, the average daily volume was 629 million shares in May 2024, down 7% compared to April 2024 and up 13% compared to May 2023. While spreads were stable, volatility and average quote sizes improved compared to April 2024.
- In non TSX-listed securities, the average daily volume was 336 million shares in May 2024, down 8% compared to April 2024 and up 27% compared to May 2023. Average quote sizes, spread and volatility conditions all improved compared to April 2024.

CA MARKET STRUCTURE NEWS

Request for Comment - Introduction of CSE Market-on-Close - Canadian Securities Exchange

On May 2nd, 2024, CNSX Markets Inc., published its proposal to introduce a Market-on-Close facility (CSE MOC). The CSE has adopted a model substantively similar to existing MOC facilities in Canada and will be available for select CSE listed securities.

Consult the links below for further details on the design and features of the CSE MOC and the comments letters (including Virtu's) received by the OSC.

https://www.osc.ca/sites/default/files/2024-05/cse_20240502_rfc-cse-market-on-close.pdf

https://www.osc.ca/en/industry/market-regulation/marketplaces/exchanges/recognized-exchanges/canadian-securities-exchange-cse-rule-review-notices/notice-and-request-27/comment-letters

Request for Comment – Proposed Amendments to Minimum Price Improvement Peg – TMX Markets

On May 16th, 2024, the TMX published proposed amendments to the Minimum Price Improvement Peg (MPIP) for Toronto Stock Exchange (TSX), TSX Alpha Exchange (Alpha) and TSX Venture Exchange (TSXV). Currently, the MPIP order rests as a dark order at the same-side NBBO when the spread is two ticks or less. The proposed changes will have the MPIP order rest at the midpoint instead, aiming to enhance flexibility and applicability across different trading situations while still providing minimum price improvement.

Consult the link below for further details:
https://www.tsx.com/resource/en/3186/tsx-and-alpha-proposed-amendments-to-minimum-price-improvement-peg-2024-05-16-en.pdf

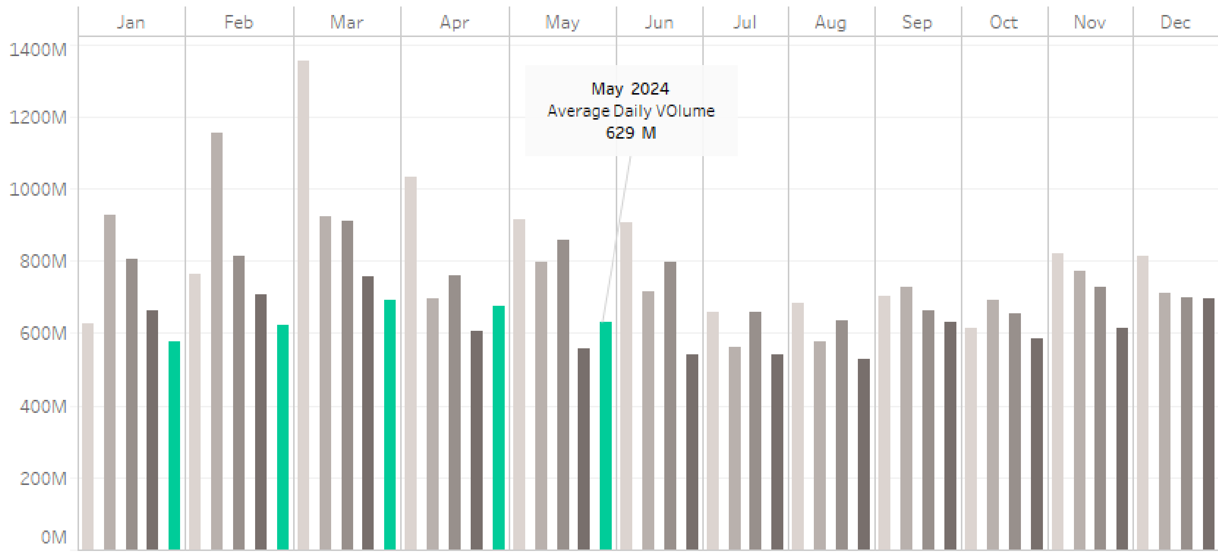
Canadian Securities Regulators move to T+1 settlement cycle – CSA

On May 27th, 2024, the Canadian Securities Administrators (CSA) announced that rule amendments supporting the move to a shorter settlement cycle for equity and long-term debt market trades came into force in Canada.

The amendments align with the industry's move to reduce the time by which trades must be matched from two days after the date of a trade (T+2) to one day (T+1). This is consistent with the associated regulatory rule changes in the United States. The transition to T+1 in the United States took place on May 28th, 2024, one day later than in Canada.

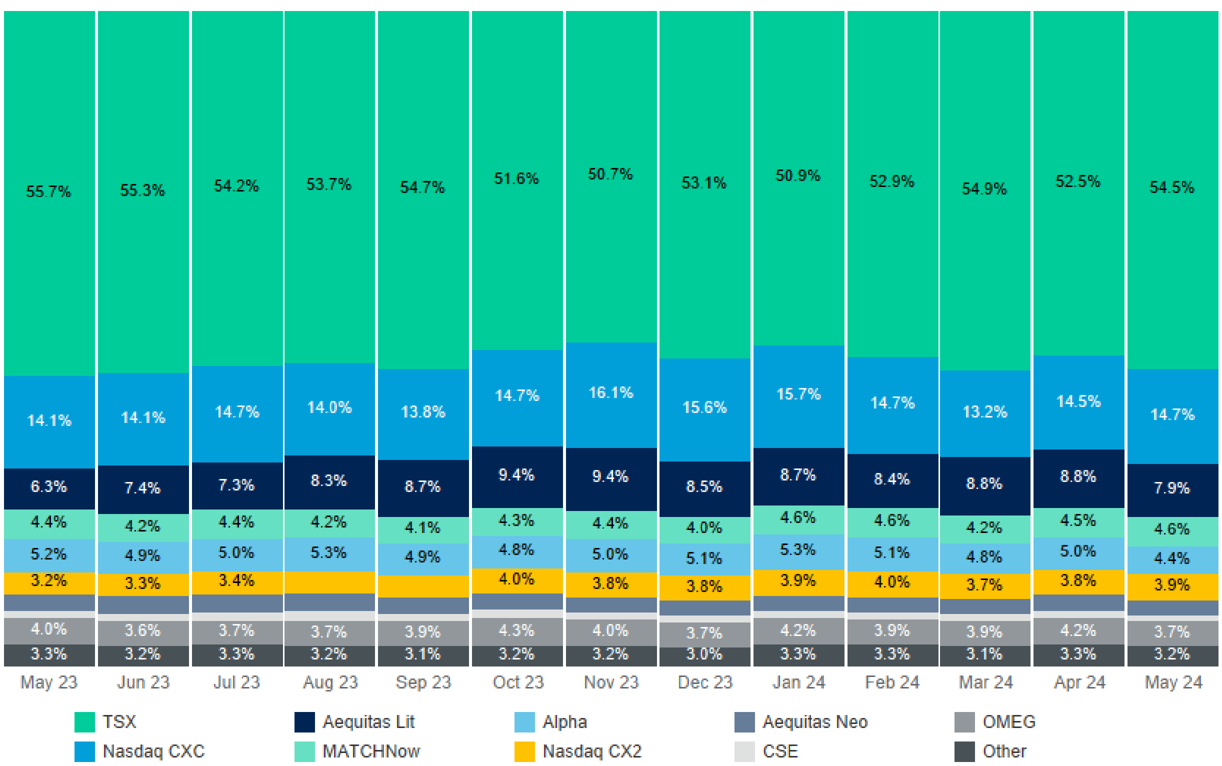
Consult the link below for further details:
https://www.osc.ca/en/securities-law/instruments-rules-policies/2/24-101/csa-notice-amendments-national-instrument-24-101-institutional-trade-matching-and-settlement-and

Average Daily Market Volume (Shares, TSX Listed)



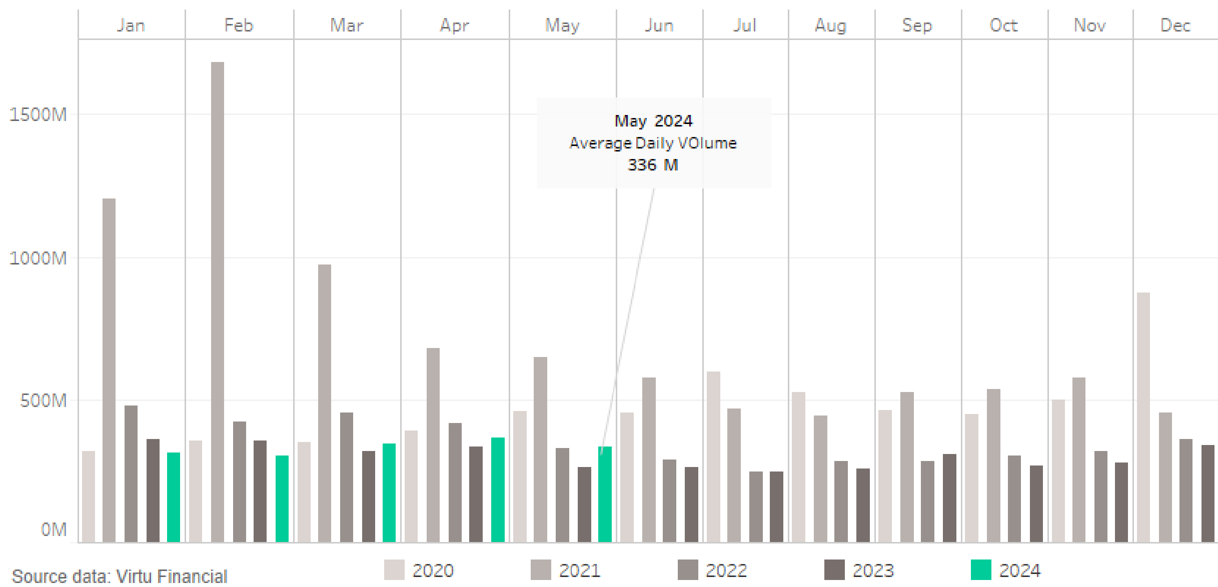
Source data: Virtu Financial

Venue Market Share (TSX Listed)



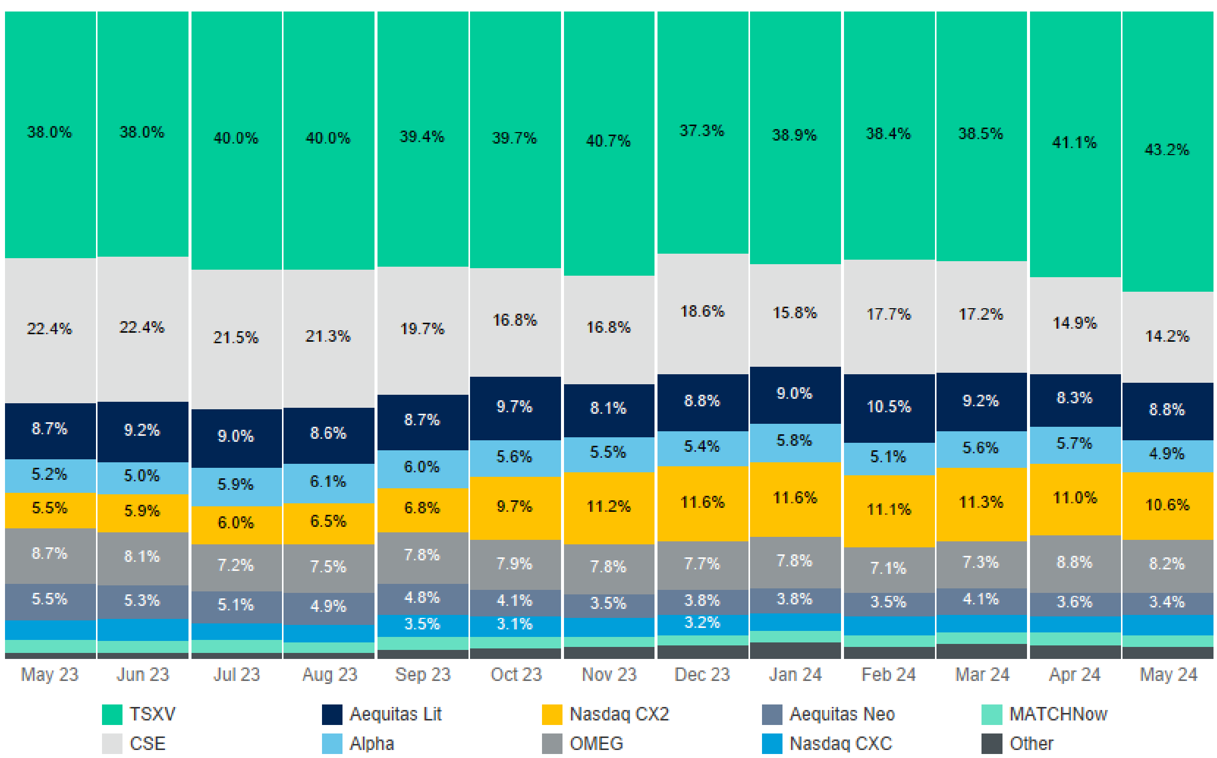
Source data: Virtu Financial

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



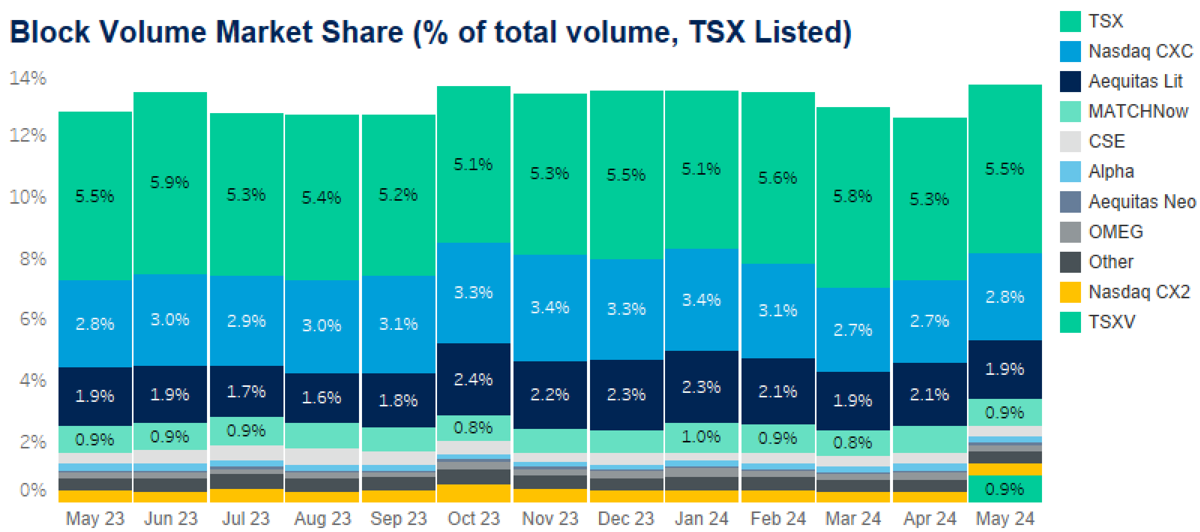
Source data: Virtu Financial

Venue Market Share (Non-TSX Listed)

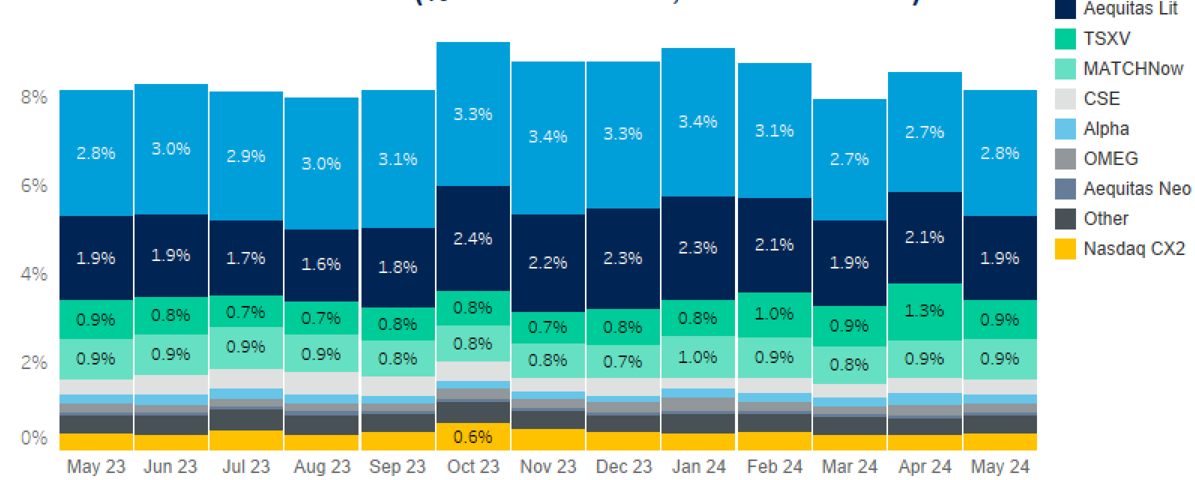


Source data: Virtu Financial

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

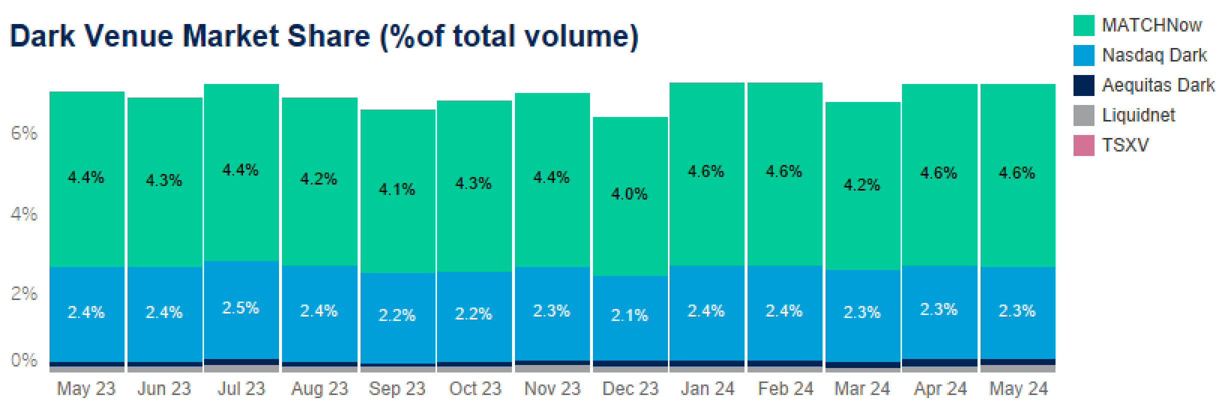


Block Volume Market Share (% of total volume, Non-TSX Listed)



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

		2Q 23		3Q 23			4Q 23			1Q 24			2Q 24	
		May 23	Jun 23	Jul 23	Aug 23	Sep 23	Oct 23	Nov 23	Dec 23	Jan 24	Feb 24	Mar 24	Apr 24	May 24
First 30 Min	S&P/TSX 60	877	889	897	895	911	865	875	932	938	917	908	844	675
	S&P/TSX Composite	1,088	1,094	1,042	1,016	1,027	1,011	1,027	1,083	1,070	1,079	1,061	1,018	834
	Non-TSX-Listed	5,930	5,259	5,021	5,261	6,182	5,950	5,650	6,074	6,193	5,722	5,906	5,500	5,551
Mid Day	S&P/TSX 60	1,106	1,112	1,114	1,100	1,115	1,094	1,082	1,138	1,129	1,134	1,089	1,031	827
	S&P/TSX Composite	1,365	1,371	1,331	1,258	1,285	1,244	1,228	1,300	1,266	1,282	1,271	1,187	1,003
	Non-TSX-Listed	5,631	5,000	4,583	4,875	5,498	5,281	5,258	5,736	5,518	5,500	5,743	5,390	5,496
Last 30 Min	S&P/TSX 60	1,191	1,209	1,280	1,245	1,268	1,215	1,219	1,301	1,242	1,183	1,136	1,066	982
	S&P/TSX Composite	1,544	1,552	1,593	1,518	1,535	1,510	1,520	1,651	1,525	1,529	1,501	1,397	1,280
	Non-TSX-Listed	5,747	5,000	4,456	4,781	5,494	5,308	5,661	6,413	6,251	5,652	5,912	5,725	5,900

Spread Bps

First 30 Min	S&P/TSX 60	6.2	6.3	5.8	6.3	6.3	6.9	6.7	6.2	6.3	6.3	6.0	6.1	6.2
	S&P/TSX Composite	12.8	12.6	12.0	12.5	12.5	14.0	14.0	13.2	13.2	13.6	13.0	12.6	12.9
	Non-TSX-Listed	184.3	192.3	182.5	180.4	186.6	190.4	188.4	188.7	164.0	152.9	149.3	156.4	153.8
Mid Day	S&P/TSX 60	3.8	3.8	3.5	3.9	3.9	4.2	4.0	3.8	3.9	4.1	3.8	3.9	3.9
	S&P/TSX Composite	8.2	8.1	7.7	8.1	8.3	9.4	9.2	8.8	8.8	8.9	8.5	8.5	8.6
	Non-TSX-Listed	126.0	130.7	124.2	124.9	120.5	124.5	126.8	128.1	113.7	104.9	108.9	116.3	109.3
Last 30 Min	S&P/TSX 60	2.8	2.8	2.6	2.7	2.8	3.0	2.8	2.7	2.8	2.8	2.7	2.8	2.8
	S&P/TSX Composite	7.3	7.5	7.1	7.3	7.6	8.1	7.6	7.5	7.7	7.6	7.4	7.4	7.5
	Non-TSX-Listed	122.8	127.5	123.6	121.2	119.7	126.6	125.0	126.6	116.3	107.5	114.9	118.5	113.1

One Minute Volatility Bps

First 30 Min	S&P/TSX 60	11.8	10.6	9.9	10.9	10.7	14.0	12.3	11.2	10.8	12.2	10.6	11.5	10.3
	S&P/TSX Composite	14.2	12.3	11.9	13.0	12.5	16.0	14.7	13.6	13.1	13.7	12.7	13.6	12.3
	Non-TSX-Listed	15.1	13.6	13.0	14.6	15.6	17.0	15.6	12.0	13.1	15.1	14.5	13.8	13.2
Mid Day	S&P/TSX 60	4.2	3.5	3.2	4.0	3.8	5.2	4.2	4.0	3.6	3.9	3.4	4.1	3.4
	S&P/TSX Composite	3.9	2.9	2.7	3.5	3.3	4.8	4.0	3.8	3.4	3.4	3.0	3.8	3.1
	Non-TSX-Listed	4.8	4.4	4.4	5.0	4.8	6.0	4.3	3.9	3.8	4.2	4.0	4.2	3.6
Last 30 Min	S&P/TSX 60	4.2	3.7	3.4	3.7	3.8	4.5	4.1	4.1	3.7	3.9	3.8	4.2	3.9
	S&P/TSX Composite	3.6	3.0	2.6	3.0	3.1	4.0	3.7	3.6	3.2	3.2	3.3	3.5	3.4
	Non-TSX-Listed	4.0	3.5	2.9	3.8	3.9	4.4	3.4	3.7	3.5	4.0	4.0	3.8	3.5

Percent MDV by Time of Day

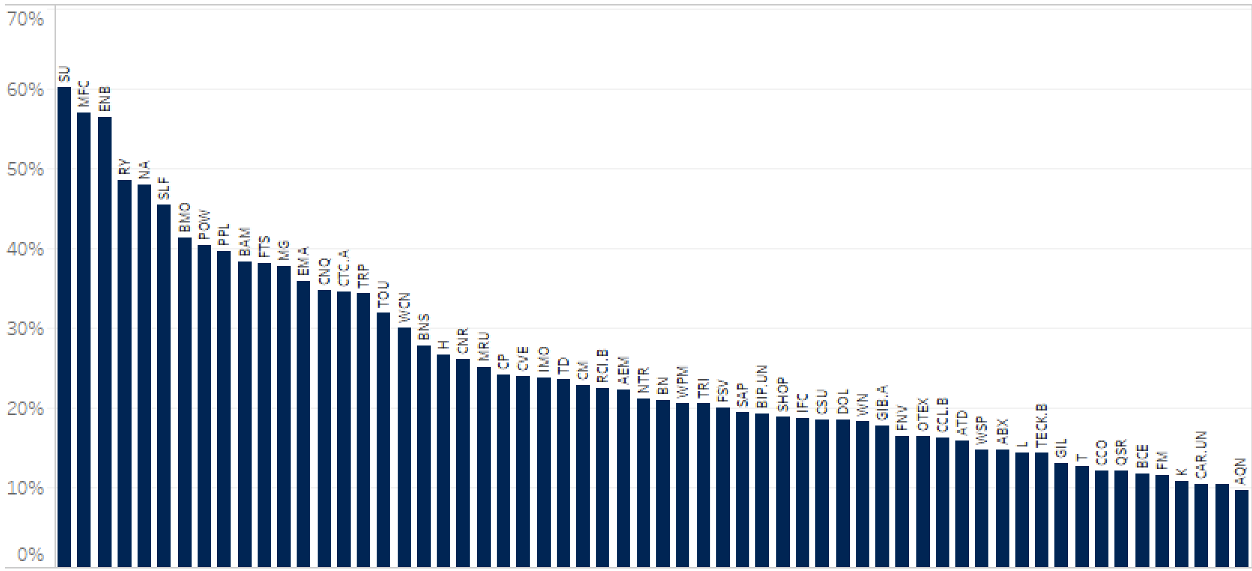
Open	S&P/TSX 60	0.5%	0.4%	0.5%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.5%	0.6%
	S&P/TSX Composite	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%
	Non-TSX-Listed	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

First 30 Min	S&P/TSX 60	9.9%	8.9%	8.9%	8.9%	8.1%	8.8%	8.6%	8.5%	8.2%	9.3%	8.5%	8.4%	8.4%
	S&P/TSX Composite	10.7%	10.1%	9.9%	9.8%	8.9%	9.8%	9.7%	9.6%	9.4%	10.1%	9.9%	10.1%	9.8%
	Non-TSX-Listed	16.4%	17.4%	18.8%	19.2%	17.7%	16.8%	18.2%	16.9%	18.5%	18.9%	20.9%	20.0%	19.6%
Last 30 Min	S&P/TSX 60	15.0%	14.5%	14.1%	14.3%	14.4%	14.6%	14.7%	13.2%	14.0%	14.5%	13.8%	13.7%	15.0%
	S&P/TSX Composite	14.5%	14.6%	14.3%	14.8%	14.7%	15.0%	15.4%	14.8%	14.7%	15.4%	15.0%	14.8%	15.7%
	Non-TSX-Listed	10.7%	11.3%	12.1%	12.4%	12.4%	12.1%	11.8%	11.2%	11.3%	11.1%	10.4%	10.5%	11.0%

Close	S&P/TSX 60	13.8%	19.1%	19.9%	19.3%	21.5%	15.1%	15.3%	20.5%	17.9%	17.5%	22.2%	18.9%	22.2%
	S&P/TSX Composite	6.9%	8.6%	8.1%	7.4%	9.0%	6.7%	6.9%	8.4%	7.4%	8.3%	8.4%	8.1%	8.9%
	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

May 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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