January 2022 Canada Market Structure Monthly



MARKET MICROSTRUCTURE OBSERVATIONS

• The average daily volume for TSX listed securities increased in January 2022 by 14% MoM to 812M shares while down 12% YoY. Liquidity and volatility conditions were worse MoM. Most notably, volatility was nearing a 12-month high—reflecting uncertainty in the broader macro environment.

• For non-TSX listed securities, the average daily volume increased to 479M shares. This represents a 5% increase MoM and a 60% decrease YoY. Liquidity, spread and volatility conditions were relatively flat month over month.

• Block volume in TSX listed securities were flat MoM while non-TSX listed securities trended upwards.

• Dark venue market share reversed the recent downward trend, registering at 5.5% for January 2022.

CANADA MARKET STRUCTURE NEWS

Canadian Securities Exchange Fee Model Proposal Comment Letters Received

The comment period relating to the Canadian Securities Exchange (CSE) Fee Model Proposal outlined in our <u>December</u> <u>2021</u> update, has expired. A total of eight comment letters were submitted from a mix of competent authorities (marketplaces, institutional firms and brokerages). Feedback was broadly against the proposal with six comment letters outlining concerns around fair access and information leakage in detail. The marketplaces highlighted that if approved, they would likely be required to react with a comparable offering to remain competitive. For a full review of the comment letters received, please visit the OSC link.

https://www.osc.ca/en/industry/market-regulation/marketplaces/exchanges/recognized-exchanges/canadian-securities-exchange-cse-rule-review-notices/proposed-fee-model-tsx/comment-letters

Cboe LIS powered by BIDS Canada Launch

On 1 February 2022, Cboe LIS powered by BIDS launched in Canada—combining MATCHNow's conditionals book with BIDS proprietary technology to create an enhanced market center for block-sized liquidity—and effectively linking MATCHNow's sell-side participants to BIDS' buy-side network. Virtu Canada's dark aggregator algorithm, Covert, has been updated to include Cboe LIS powered by BIDS in its routing logic.

https://ir.cboe.com/news-and-events/2021/06-17-2021/cboe-plans-launch-enhanced-block-trading-service-canada-furtherexpanding-bids-trading-globally

Virtu Client Email

MATCHNow Technical Migration to Cboe and Bids Completes on February 1, 2022

On February 1, 2022, MATCHNow will complete its technical integration and complete platform overhaul as part of its migration to Cboe Technology. The technology migration will make Cboe technology MATCHNow's matching engine, while BIDS technology will become its conditional order book engine. In August 2020, when Cboe acquired MATCHNow, the ATS accounted for ~65% of the market share total in Canadian dark trading. MATCHNow officials expect a temporary dip in dark liquidity market share as various vendors work through the migration process but are confident that the move will lead to the introduction of more products, expanded conditional offering and overall lower latency and better performance. https://www.marketsmedia.com/matchnow-to-migrate-to-cboe-tech-in-2022/



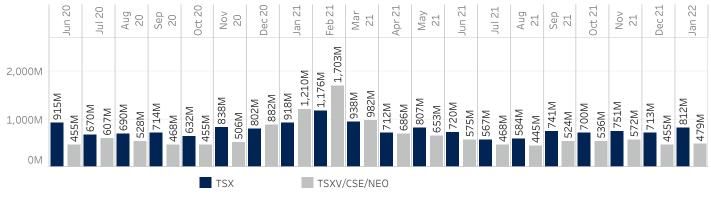
Tradelogiq Markets Inc. Ownership Change and Request for Comment on Rule Change Proposal

On 12 January 2022, following regulatory approval, TradeLogig Markets Inc.(Tradelogiq) announced certain ownership changes as K2 Principal Fund and XTX Ventures closed on a transaction which, in aggregate, provides them with a significant minority ownership stake in Tradelogiq. The acquired shares were previously held by an original shareholder who now no longer holds an equity interest. Tradelogiq Chairman and CEO Laurence Rose offered that K2 and XTX Ventures are strategically aligned with the companies' vision and business plan that will continue to improve liquidity and execution quality for clients and all investors.

On 20 January, Tradelogiq, who operates Omega and Lynx ATSs, submitted a request for comment relating to changes to rules and features in their ATSs. Comments are due by 21 February 2022. The proposal is focused on the cleanup of their marketplace functionality including, a dark mid-point limit order and an amendment to their intentional crossing facility to allow crosses with special term settlement options.

https://www.newswire.ca/news-releases/tradelogiq-group-inc-announces-ownership-changes-838324183.html https://www.osc.ca/en/industry/market-regulation/marketplaces/alternative-trading-systems-atss/atss-operating-ontario/omega-ats-lynx-ats-orders-notices/tradelogig-markets





Average Daily Market Volume By Listing Exchange (Shares)

Source data: Virtu Financial

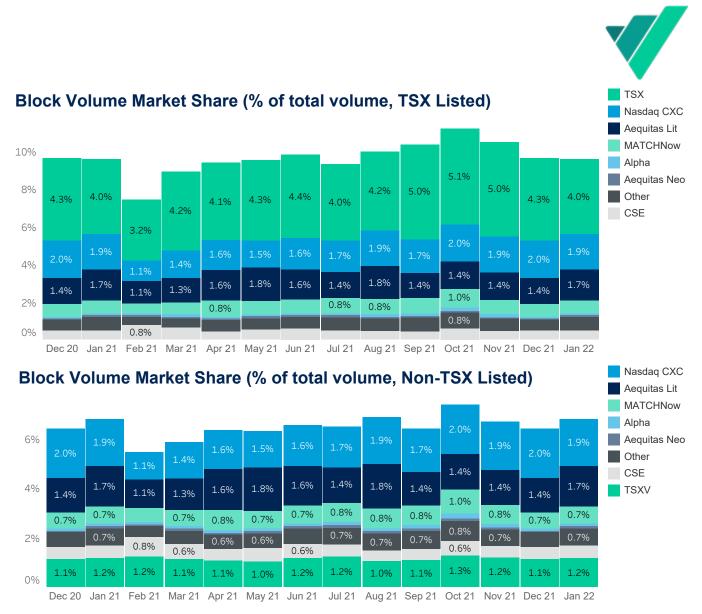
Venue Market Share (TSX-Listed)

54.8%	53.1%	55.2%	56.7%	54.0%	54.4%	54.8%	53.1%	53.1%	55.9%	53.3%	55.2%	55.4%	53.6%
14.9%	14.3%	11.1%	12.3%	12.3%	12.1%	12.7%	13.7%	13.7%	12.4%	13.1%	12.8%	14.0%	15.0%
7.4%	7.7%	7.1%		7.7%	7.4%	6.7%	6.7%	7.0%	6.6%	7.2%	6.7%		7.0%
6.6%	7.3%	8.1%	7.7%	7.0%	7.4%	7.4%	7.8%	7.4%	6.9%	7.3%	6.9%	6.9%	7.4%
7.2%	8.3%	9.2%	7.8%	9.0%	9.3%	9.0%	9.3%	9.3%	9.6%	9.9%	9.5%	9.3%	8.9%
Dec 20	Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	Jan 22

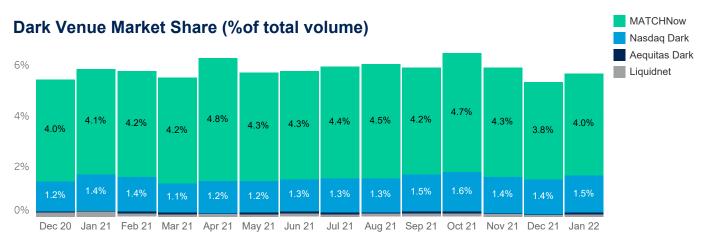
Venue Market Share (Non-TSX-Listed)

8.0%	8.3%	7.5%	8.4%	9.4%	8.5%	8.9%	9.5%	9.0%	9.0%	8.2%	8.6%	8.0%	8.3%
9.2%	9.2%	8.6%	9.1%	9.1%	8.7%	8.5%	8.2%	8.3%	7.9%	7.7%	7.1%		6.5%
35.9%	35.5%	34.8%	35.8%	35.8%	37.8%	35.2%	35.2%	35.0%	36.8%	38.4%	36.8%	36.6%	36.2%
26.8%	27.0%	27.9%	24.8%	23.2%	20.8%	23.4%	24.0%	22.8%	20.1%	20.8%	22.0%	21.9%	20.7%
10.6%	10.7%	12.5%	12.2%	13.0%	14.5%	14.5%	13.9%	14.9%	15.5%	15.3%	15.8%	16.5%	16.1%
Dec 20	Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	Jan 22
		TSX Nasdaq CXC			quitas Lit TCHNow		Alpha Aequitas	Neo	CS				

Source data: Virtu Financial



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



TSX listed securities only; Source data: Virtu Financial



Quotesize in Shares

			1Q 21			2Q 21			3Q 21			4Q 21		1Q 22
		Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	Jan 22
First 30 Min	S&P/TSX 60	765	739	778	834	808	871	842	862	912	889		868	823
	S&P/TSX Composite	851	864	894	953	952	1,076		1,015	1,056	1,085	992	1,046	970
	Non-TSX-Listed	11,000	13,258	9,500	8,203	8,492	7,778	6,394	5,729	6,073	6,360		5,071	5,189
Mid Day	S&P/TSX 60	947	938	951	1,032	1,017	1,107	1,040	1,052	1,095	1,096		1,004	968
	S&P/TSX Composite	1,052	1,097	1,103	1,176	1,204	1,321	1,205	1,245	1,278	1,311	1,211	1,220	1,166
	Non-TSX-Listed	8,575	10,247	7,403	6,381	6,481	5,900	5,000	4,600	4,900		5,000	4,165	4,050
Last 30 Min	S&P/TSX 60	1,180	1,205	1,155	1,287	1,251	1,327	1,250	1,256	1,309	1,274	1,219	1,128	1,075
	S&P/TSX Composite	1,319	1,364	1,306	1,423	1,476	1,569		1,465	1,496	1,514	1,445	1,411	1,342
	Non-TSX-Listed	10,500	12,168	8,832	7,381	7,992	7,111	6,033	5,600	5,904		5,900	5,000	4,774

Spread Bps

First 30 Min	S&P/TSX 60	6.3	6.0	5.9	5.1		4.7	5.0	4.8	4.9	5.0	5.5	5.4	5.6
	S&P/TSX Composite	13.5	13.0	12.9	11.9	11.6	10.6	11.6	11.2	10.8	10.5	10.6		11.2
	Non-TSX-Listed	188.7	185.2	175.0	171.5	175.1	166.7	174.0	164.9	170.1	170.5	163.9	175.4	172.4
Mid Day	S&P/TSX 60	4.0	3.8	3.8	3.4	3.3	3.1		3.2	3.2	3.2	3.4	3.4	3.5
	S&P/TSX Composite	7.9	7.8	8.0	7.1	7.2	6.6	7.0	6.8	6.8	7.0	7.1	7.4	7.6
	Non-TSX-Listed	145.8	142.9	134.3	134.9	136.7	135.1		125.0	128.2	128.6	123.2	122.0	124.2
Last 30 Min	S&P/TSX 60	3.3	3.2	3.1	2.8	2.7	2.5	2.6	2.5	2.5	2.5	2.7	2.8	2.8
	S&P/TSX Composite	7.0	6.9	7.0	6.4		5.8	6.0	5.9	5.8	6.0	6.1	6.4	6.5
	Non-TSX-Listed	144.9	142.9	135.4	133.3	135.8	133.4	131.6	124.3	129.9	126.8	123.5	125.7	125.5

One Minute Volatility Bps

First 30 Min	S&P/TSX 60	14.0	14.3	15.1	11.0	13.1	10.5	11.0	11.2	12.2	11.9	11.9	13.5	14.2
	S&P/TSX Composite	18.5	18.9	19.9	14.8	18.0	14.3	15.1	15.2		15.3	15.0	17.4	17.7
	Non-TSX-Listed	22.0	25.0	26.4	18.2	19.0	16.7	17.7	18.0	19.6	17.5	19.9	24.0	24.1
Mid Day	S&P/TSX 60	4.6	4.5	5.3	3.6		3.2	3.6	3.4	3.8	3.5	3.6	4.6	5.4
	S&P/TSX Composite	5.3	5.4	6.4	3.8	4.5	3.4	3.9	3.4	3.9	3.7		4.7	5.7
	Non-TSX-Listed	6.5	7.7	9.4	5.7	5.8	5.0		5.7	6.3	5.8	5.8	7.1	9.2
Last 30 Min	S&P/TSX 60	4.7	4.5	5.2		4.2	3.4	3.6	3.2	3.6	3.4	3.5	4.6	5.3
	S&P/TSX Composite	4.9	4.9	5.9		4.4	3.4	3.5	2.9	3.4	3.2	3.4	4.6	5.1
	Non-TSX-Listed	6.9		8.0	6.6	5.4	4.4	5.4	5.2	6.8	4.9	4.9	6.7	8.6

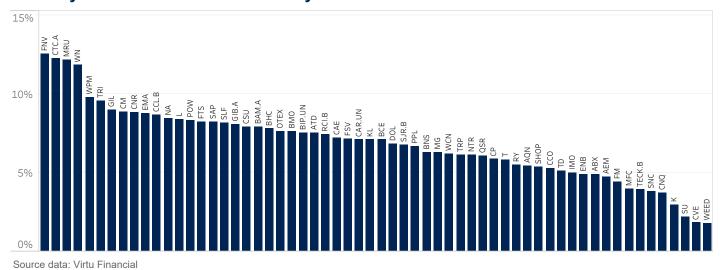
Percent MDV by Time of Day

Open	S&P/TSX 60	0.6%	0.6%	0.6%	0.6%		0.6%	0.7%	0.6%	0.7%	0.6%	0.6%	0.6%	0.6%
	S&P/TSX Composite	0.6%	0.6%	0.5%		0.6%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	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%
	S&P/TSX 60	12.2%	35.7%	12.0%	12.7%	14.4%	13.8%	13.1%	13.3%	14.7%	14.3%	14.4%	13.5%	13.0%
	S&P/TSX Composite	13.6%	39.3%	13.0%	13.1%	14.6%	13.6%	14.0%		14.2%	14.2%	14.3%	13.3%	12.5%
	Non-TSX-Listed	21.2%	60.2%	19.2%	18.7%	18.7%	19.4%	19.0%	17.9%	18.4%	18.8%	19.4%	17.3%	17.4%
Last 30 Min	S&P/TSX 60	33.2%	90.8%	31.2%		33.1%	36.6%	32.0%	29.7%	31.2%	29.8%	32.1%	34.0%	33.1%
	S&P/TSX Composite	22.0%	61.9%	22.1%	24.2%	24.3%	24.9%	25.2%	22.4%	22.9%	22.1%	23.5%	25.4%	23.2%
	Non-TSX-Listed	9.7%	26.8%	10.1%	9.3%	9.1%	9.3%		8.7%	8.7%	8.1%	8.3%	8.0%	8.4%
Close	S&P/TSX 60	11.5%	11.4%	11.3%	9.3%	6.5%	7.0%		6.5%	6.5%	7.3%	6.4%	6.7%	6.6%
	S&P/TSX Composite	4.1%	4.7%	3.7%	4.2%		3.8%	4.1%	3.2%	3.3%	3.9%	3.7%	3.7%	3.6%
	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





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



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