February 2022 Canada Market Structure Monthly



MARKET MICROSTRUCTURE OBSERVATIONS

• The average daily volume for TSX listed securities decreased slightly in February 2022 by 1% MoM to 800M shares and down more significantly by 31% YoY. Liquidity conditions worsened MoM hitting a 12-month low whereas spread and volatility conditions were flat MoM and remained near a 12-month high.

• For non-TSX listed securities, the average daily volume decreased to 420M shares, representing a 12% decrease MoM and a 75% decrease YoY. While liquidity, spread and volatility where relatively flat MoM they remained at an unfavorable 12-month low.

• Block volume in TSX and non-TSX listed securities were down significantly MoM. The deterioration in block trading was felt across all venues with a notable drop in TSX block volume of 0.9% of total volume.

• Dark venue market share also dropped to a 12-month low, notable was the drop in MATCHNow's market share and slight increase Nasdaq Dark's market share—likely attributable to MATCHNow's technology migration onto the CBOE trading platform as highlighted in our <u>January Market Structure Monthly</u>.

CANADA MARKET STRUCTURE NEWS

CNSX Markets Inc. Intends to Launch New Inverted Trading Facility, Files Request for Comment

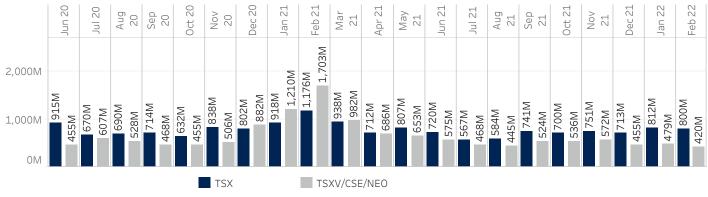
CNSX Markets Inc. (CSE) has filed a Request for Comment with its provincial regulator, the Ontario Securities Commission, in relation to its intended plans to launch a second trading facility in 3Q 2022. As a primary listing exchange the CSE, a longtime leader in Canadian capital formation, has experienced significant growth and intends to expand its trading solutions to address the needs of its customers. The new proposed inverted model is in response to CSE Dealer demand requests, resulting from the significant increase in online retail investor activity in the Canadian markets and the corresponding pressure to reduce commission rates to remain competitive and recapture trading volume of CSE-listed securities. The move appears to be in response to the negative response letters on their variable fee model for guaranteed minimum fill orders in its existing protected market.

https://www.osc.ca/en/industry/market-regulation/marketplaces/exchanges/recognized-exchanges/canadian-securities-exchange-cse-rule-review-notices/canadian-securities-1

NEO Exchange Request for Comment on a New Volatility Parameter for Their Closing Auction

Since the inception of a novel closing mechanism on NEO Exchange Inc. (NEO), which is similar to the London Stock Exchange facility, the street has seen significant close price volatility in NEO listed names during index events. As such, NEO has filed a Request for Comment with the OSC in an attempt to mute the volatility of their closing auction by implementing a new volatility parameter, Closing Price Threshold where a delayed close can be priced. https://www.osc.ca/en/industry/market-regulation/marketplaces/exchanges/recognized-exchanges/neo-exchange-inc-rule-review-notices/neo-exchange-inc-proposed-public-interest





Average Daily Market Volume By Listing Exchange (Shares)

Source data: Virtu Financial

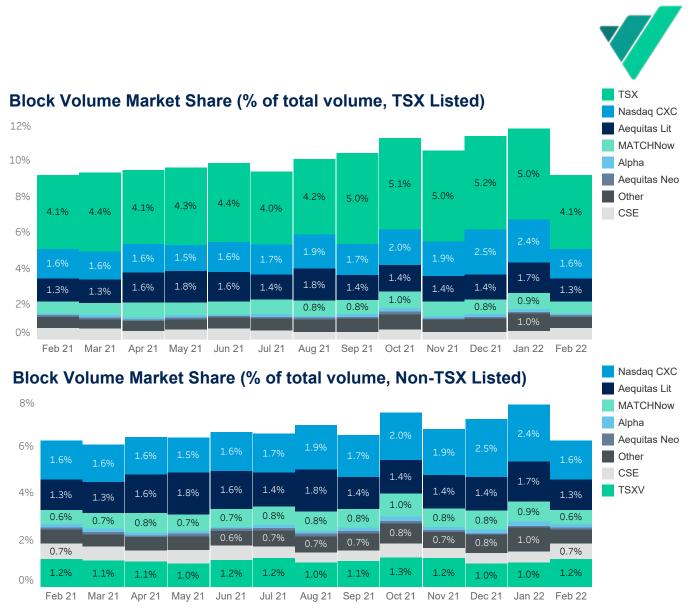
Venue Market Share (TSX-Listed)

55.2%	56.7%	54.0%	54.4%	54.8%	53.1%	53.1%	55.9%	53.3%	55.2%	55.4%	52.6%	55.4%
11.1%	12.3%	12.3%	12.1%	12.7%	13.7%	13.7%	12.4%	13.1%	12.8%	14.0%	15.4%	14.8%
7.1%		7.7%	7.4%	6.7%	6.7%	7.0%	6.6%	7.2%	6.7%		7.1%	6.8%
8.1%	7.7%	7.0%	7.4%	7.4%	7.8%	7.4%	6.9%	7.3%	6.9%	6.9%	7.2%	6.2%
9.2%	7.8%	9.0%	9.3%	9.0%	9.3%	9.3%	9.6%	9.9%	9.5%	9.3%	9.1%	8.9%
Feb 21	Mar 21	Apr 21	May 21	Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	Jan 22	Feb 22

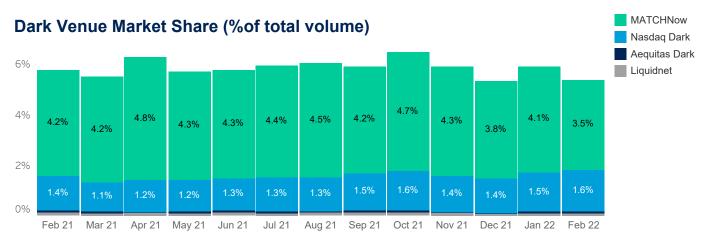
Venue Market Share (Non-TSX-Listed)

7.5%	8.4%	9.4%	8.5%	8.9%	9.5%	9.0%	9.0%	8.2%	8.6%	8.0%	8.4%	7.7%
8.6%	9.1%	9.1%	8.7%	8.5%	8.2%	8.3%	7.9%	7.7%	7.1%			7.1%
34.8%	35.8%	35.8%	37.8%	35.2%	35.2%	35.0%	36.8%	38.4%	36.8%	36.6%	35.4%	37.0%
27.9%	24.8%	23.2%	20.8%	23.4%	24.0%	22.8%	20.1%	20.8%	22.0%	21.9%	21.2%	21.8%
12.5%	12.2%	13.0%	14.5%	14.5%	13.9%	14.9%	15.5%	15.3%	15.8%	16.5%	16.3%	15.6%
Feb 21	Mar 21	Apr 21	May 21	Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	Jan 22	Feb 22
	TSX Nasdaq CXC		Aequita MATCH		Alp Aeo	ha quitas Neo		Other CSE				

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
		Feb 21	Mar 21	Apr 21	May 21	Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	Jan 22	Feb 22
First 30 Min	S&P/TSX 60	743	784	836	815	880	848	869	918	893	845	874	827	767
	S&P/TSX Composite	864	894	953	953	1,076		1,015	1,056	1,087	993	1,046	972	880
	Non-TSX-Listed	13,258	9,500	8,203	8,492	7,778	6,394	5,729	6,073	6,360	6,702	5,071	5,189	5,000
Mid Day	S&P/TSX 60	951	963	1,046	1,030	1,121	1,054	1,065	1,107	1,111		1,014	977	933
	S&P/TSX Composite	1,097	1,103	1,177	1,205	1,322	1,206	1,246	1,279	1,313	1,212	1,221	1,166	1,092
	Non-TSX-Listed	10,247	7,403	6,381	6,481	5,900		4,600	4,900	5,292		4,165	4,050	4,265
Last 30 Min	S&P/TSX 60	1,240	1,177	1,306	1,270	1,339	1,265	1,277	1,327	1,299	1,237	1,145	1,093	1,027
	S&P/TSX Composite	1,364	1,306	1,423	1,475	1,568		1,466	1,495	1,518	1,448	1,413	1,343	1,267
	Non-TSX-Listed	12,168	8,832	7,381	7,992	7,111		5,600	5,904	6,383	5,900	5,000	4,774	4,625

Spread Bps

First 30 Mir	First 30 Min S&P/TSX 60		5.8	5.0		4.6	5.0	4.8	4.9	4.9	5.4	5.4	5.5	5.6
	S&P/TSX Composite	13.0	12.9	11.9	11.6	10.6	11.6	11.2	10.8	10.5	10.6		11.2	11.3
	Non-TSX-Listed	185.2	175.0	171.5	175.1	166.7	174.0	164.9	170.1	170.5	163.9	175.4	172.4	163.1
Mid Day	S&P/TSX 60	3.8	3.8	3.4	3.3	3.2		3.2	3.2	3.2	3.3	3.4	3.5	3.4
	S&P/TSX Composite	7.8	8.0	7.1	7.2	6.6	7.0	6.8	6.8	7.0	7.1	7.4	7.6	7.4
	Non-TSX-Listed	142.9	134.3	134.9	136.7	135.1	132.3	125.0	128.2		123.2	122.0	124.2	122.2
Last 30 Min	S&P/TSX 60	3.2	3.1	2.8	2.8	2.6	2.7	2.6	2.5	2.6	2.7	2.8	2.8	2.8
	S&P/TSX Composite	6.9	7.0	6.4		5.8	6.0	5.9	5.8	6.0	6.1	6.4	6.5	6.5
	Non-TSX-Listed	142.9	135.4	133.3	135.8	133.4	131.6	124.3	129.9	126.8	123.5	125.7	125.5	125.5

One Minute Volatility Bps

First 30 Min	S&P/TSX 60	14.0	15.0	11.0	13.0	10.5	10.8	11.1	12.0	11.8	11.7	13.5	14.0	14.0
	S&P/TSX Composite	18.9	19.9	14.8	18.0	14.3	15.1	15.2		15.3	15.0	17.4	17.7	17.8
	Non-TSX-Listed	25.0	26.4	18.2	19.0	16.7	17.7	18.0	19.6	17.5	19.9	24.0	24.1	22.7
Mid Day	S&P/TSX 60	4.5	5.2	3.6	3.7	3.1	3.6	3.3		3.5	3.6	4.5	5.3	5.0
	S&P/TSX Composite	5.4	6.4	3.8	4.5	3.4	3.9	3.4	3.9	3.7		4.7	5.7	5.5
	Non-TSX-Listed	7.7	9.4	5.7	5.8	5.0		5.7	6.3	5.8	5.8	7.1	9.2	7.1
Last 30 Min	S&P/TSX 60	4.5	5.1		4.1	3.4	3.6	3.2	3.6	3.4	3.5	4.6	5.3	5.4
	S&P/TSX Composite	4.9	5.9		4.4	3.4	3.4	2.9	3.4	3.2	3.4	4.6	5.1	5.3
	Non-TSX-Listed		8.0	6.6	5.4	4.4	5.4	5.2	6.8	4.9	4.9	6.7	8.6	6.2

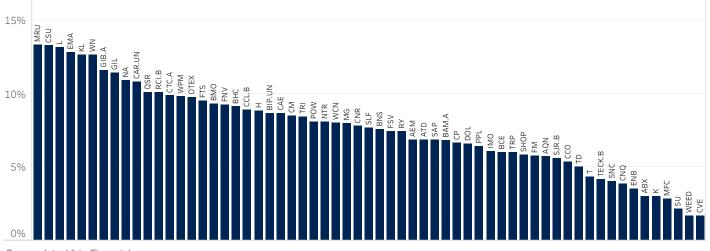
Percent MDV by Time of Day

Open	S&P/TSX 60	0.6%	0.6%	0.6%	0.6%	0.6%	0.7%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
opon	S&P/TSX Composite	0.6%	0.5%	0.5%	0.6%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	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	35.6%	12.0%	12.8%	14.5%	13.8%	13.0%	13.3%	14.5%	13.9%	14.3%	13.5%	13.0%	13.3%
	S&P/TSX Composite	39.3%	13.0%	13.1%	14.6%	13.6%	14.0%		14.2%	14.1%	14.3%	13.3%	12.5%	13.3%
	Non-TSX-Listed	60.2%	19.2%	18.7%	18.7%	19.4%	19.0%	17.9%	18.4%	18.8%	19.4%	17.3%	17.4%	17.5%
Last 30 Min	S&P/TSX 60	90.8%	31.1%		33.8%	36.9%	32.2%	30.0%	31.5%	29.8%	31.6%	34.2%	33.4%	35.1%
	S&P/TSX Composite	61.9%	22.1%	24.2%	24.3%	24.9%	25.2%	22.4%	22.9%	22.1%	23.5%	25.4%	23.2%	26.3%
	Non-TSX-Listed	26.8%	10.1%	9.3%	9.1%	9.3%	9.0%	8.7%	8.7%	8.1%	8.3%	8.0%	8.4%	
Close	S&P/TSX 60	11.0%	11.1%	9.7%	6.7%	7.0%		6.4%	6.5%	7.3%	6.4%	6.8%	6.7%	7.7%
	S&P/TSX Composite	4.7%	3.7%	4.2%		3.8%	4.2%	3.2%	3.3%	3.9%	3.7%	3.7%	3.6%	4.0%
	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





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

Source data: Virtu Financial



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