

October 2020

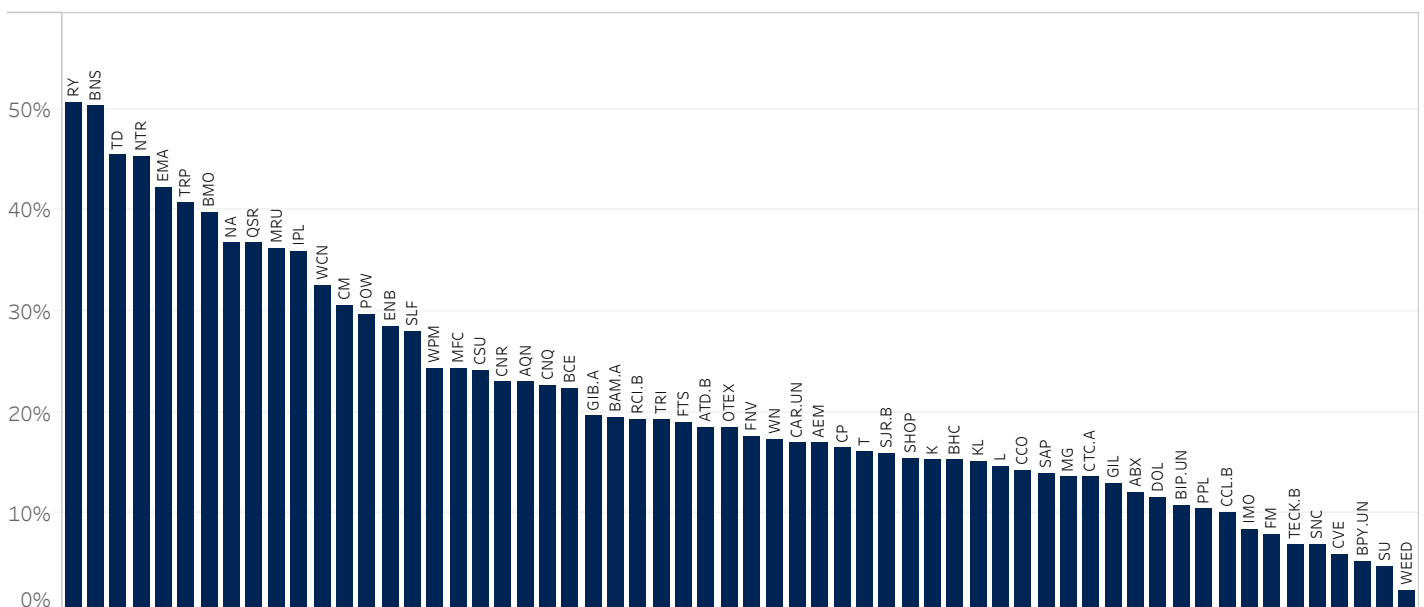
Canada Market Structure Monthly



MARKET MICROSTRUCTURE OBSERVATIONS

- TSX-listed average daily volume declined to 632M shares in October 2020, the lowest level of the year.
- Close volumes in four of the Big Five Canadian banks (BMO, BNS, RY, TD) experienced a surge in trading at the close, with median MOC market share exceeding 40% in October 2020. In September, MOC volumes across the banks ranged anywhere from the mid-teens to 30%. In July, exactly three months ago, there was a similar increase in close volume across the Big Five banks.
- Off the back of the large increase in close activity across the Canadian banks, MOC volumes across the S&P/TSX 60 hit an all-time high in October 2020, accounting for 20% of all volume traded. Historically, MOC volumes have hovered between 9-10%, but since June 2020, close volumes have been generally elevated relative to the historical average.
- Trading activity in the first thirty minutes across the S&P/TSX 60 fell to a one year low. The first thirty minutes only accounted for 10.5% of average volume traded in October 2020, compared to 11.2% in September and 12% in May.
- Average spreads in October 2020 declined to the lowest level since February, despite a widespread selloff in the last week of the month. Spreads in the first 30 minutes of trading saw the largest MoM declines, dropping 10% to 5.9% across the S&P/TSX 60 and dropping 5% to 11.8bps across the S&P/TSX Composite.
- Block market share in October 2020 declined for the first time in five months, decreasing 10% MoM to 9.5%. Block market share on the TSX fell nearly 13% MoM, while Nasdaq and Aequitas both saw marginal increases.

October 2020 Median MOC % of Daily Volume - S&P/TSX 60



Source Data: Virtu Financial



CANADA MARKET STRUCTURE NEWS

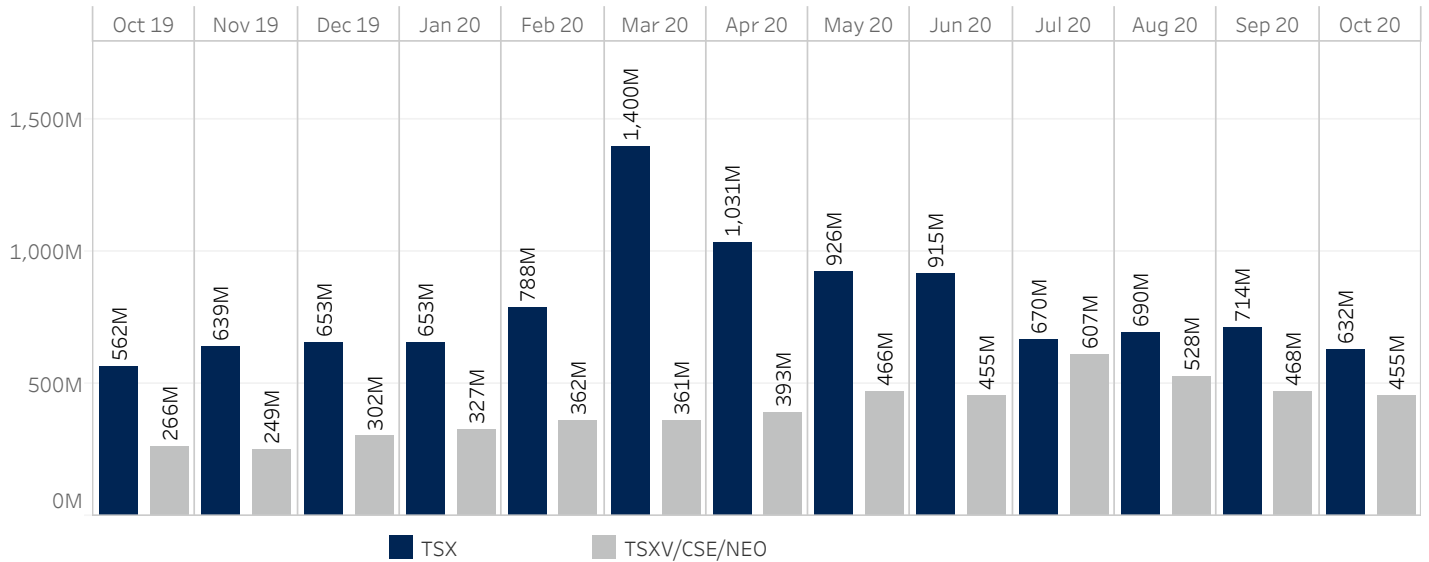
TMX Group Submits Final Market on Close (MOC) Modernization Proposal

The TMX Group Limited submitted its final MOC modernization proposal for public comment and regulatory approval. The proposed model closely resembles Nasdaq's closing auction, which would result in higher alignment with our US counterparts. Among the lengthy list of proposed changes is the introduction of more detailed imbalance messages which will be published every 10 seconds starting at 3:50PM. The proposal would also introduce a freeze period which would start at a random time between 3:56PM and 3:57PM. During the freeze period, only passive limit on close orders can be submitted, limiting the ability for the imbalance to flip. The TMX Group is targeting May 2021 for implementation pending regulatory approval.

https://www.osc.gov.on.ca/en/Marketplaces_tsx_20200611_rfc_proposed-amendments.htm

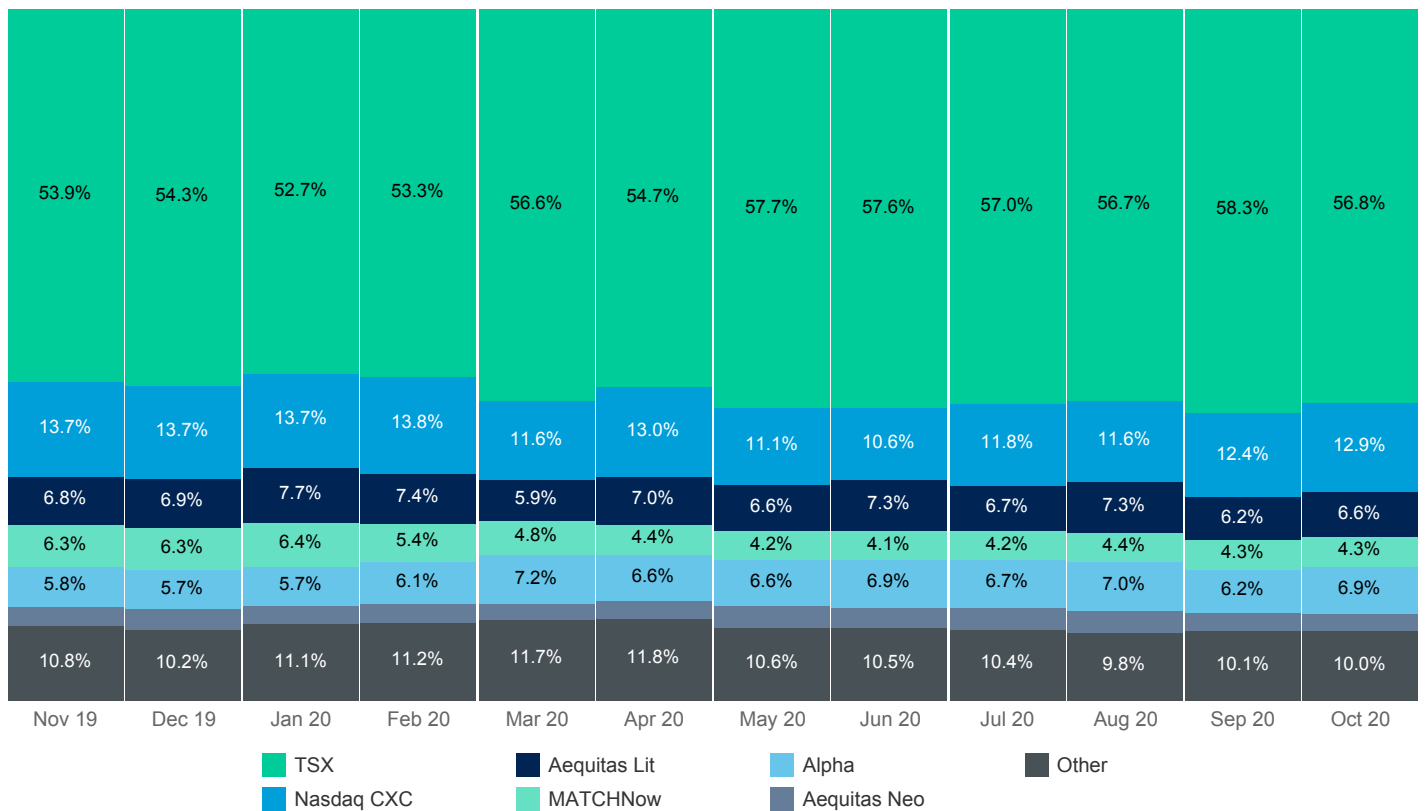


Average Daily Market Volume By Listing Exchange (Shares)



Source data: Virtu Financial

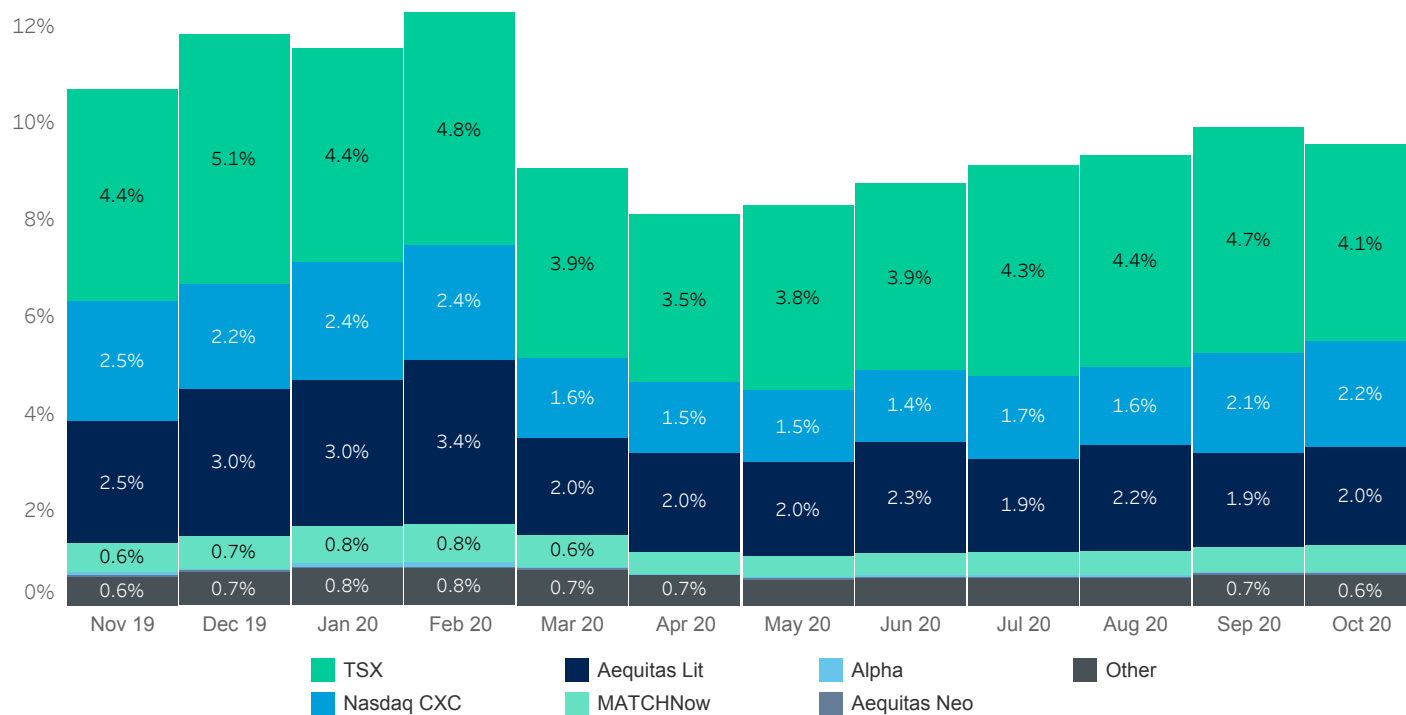
Venue Market Share



TSX listed securities only; Source data: Virtu Financial

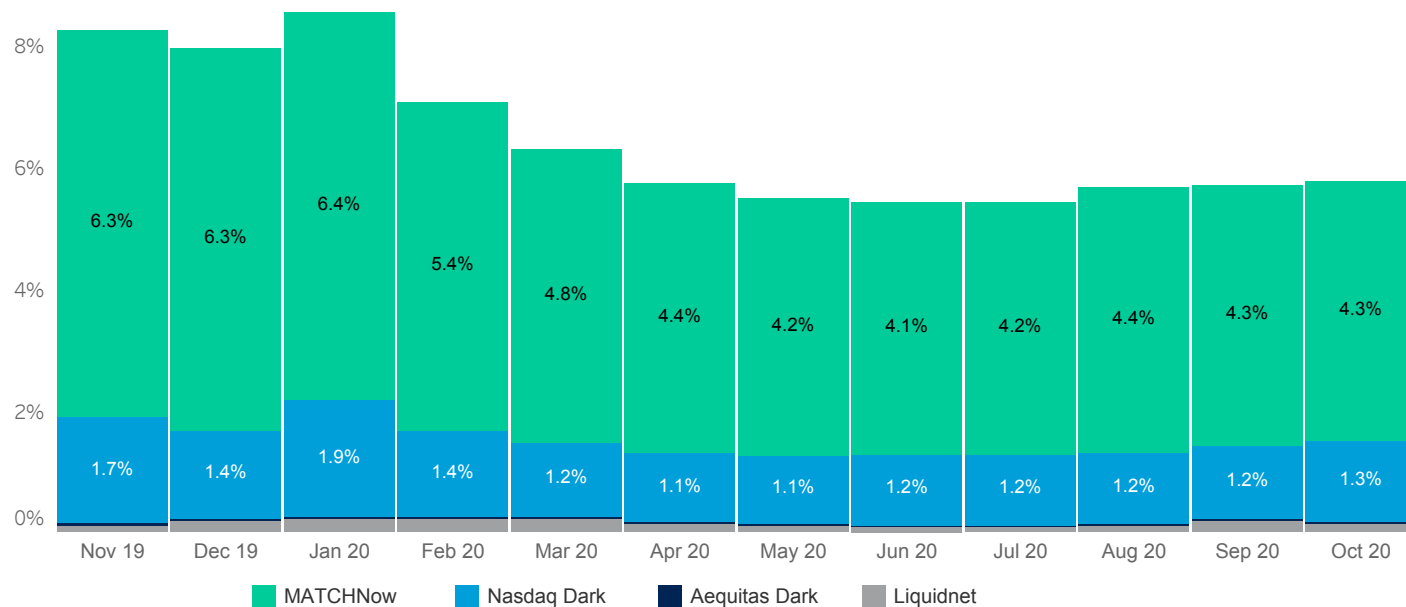


Block Volume Market Share (% of total volume)



Blocks defined as >10K shares and > \$100,000; TSX listed securities only; Source data: Virtu Financial

Dark Venue Market Share (% of total volume)



TSX listed securities only; Source data: Virtu Financial



Quotesize in Shares

		4Q 19			1Q 20			2Q 20			3Q 20			4Q 20
		Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20	Jul 20	Aug 20	Sep 20	Oct 20
First 30 Min	S&P/TSX 60	594	599	640	608	608	500	481	500	520	609	621	653	683
	S&P/TSX Composite	624	650	704	691	700	592	547	539	570	648	668	709	746
Mid Day	S&P/TSX 60	855	901	1,012	1,010	964	617	629	753	730	810	845	841	835
	S&P/TSX Composite	874	936	1,072	1,071	1,037	731	700	800	812	871	911	930	896
Last 30 Min	S&P/TSX 60	1,310	1,356	1,514	1,429	1,393	675	764	962	953	1,040	1,068	1,015	1,085
	S&P/TSX Composite	1,213	1,298	1,474	1,428	1,424	843	919	1,083	1,105	1,140	1,181	1,168	1,220

Spread Bps

First 30 Min	S&P/TSX 60	4.8	4.6	4.3	4.4	4.6	14.9	11.1	7.6	7.2	6.8	6.2	6.5	5.9
	S&P/TSX Composite	10.2	9.3	8.6	8.9	9.6	28.5	23.0	18.1	16.5	13.9	12.5	12.4	11.8
Mid Day	S&P/TSX 60	3.2	3.0	2.8	2.8	2.9	7.7	5.5	4.6	4.5	4.4	4.1	4.3	4.1
	S&P/TSX Composite	6.4	6.3	5.8	5.8	5.9	14.9	11.5	9.8	9.2	7.9	7.3	7.5	7.1
Last 30 Min	S&P/TSX 60	2.5	2.4	2.3	2.3	2.3	6.0	4.3	3.6	3.5	3.3	3.1	3.3	3.1
	S&P/TSX Composite	5.5	5.3	5.1	5.0	5.1	12.1	9.3	8.2	7.7	6.8	6.4	6.5	6.1

One Minute Volatility Bps

First 30 Min	S&P/TSX 60	11.2	11.0	10.6	10.0	12.4	51.8	30.0	22.2	21.3	16.5	15.3	17.3	14.1
	S&P/TSX Composite	13.6	13.3	12.5	12.1	15.0	56.7	36.1	27.6	26.6	20.4	19.3	21.0	17.5
Mid Day	S&P/TSX 60	3.9	3.4	3.3	3.2	3.9	22.9	11.7	7.7	7.6	5.5	5.0	6.2	5.3
	S&P/TSX Composite	3.9	3.4	3.0	3.1	3.8	22.9	12.8	8.3	8.2	6.1	5.6	6.6	5.6
Last 30 Min	S&P/TSX 60	3.6	3.0	3.0	3.2	3.6	26.5	12.8	8.4	7.4	5.4	4.6	6.2	4.9
	S&P/TSX Composite	3.3	2.8	2.6	2.7	3.1	25.4	13.2	8.6	7.7	5.7	5.0	6.1	4.9

Percent MDV by Time of Day

Open	S&P/TSX 60	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%	0.7%	0.6%	0.6%	0.5%	0.6%	0.5%	0.5%
	S&P/TSX Composite	0.4%	0.5%	0.5%	0.6%	0.6%	0.6%	0.6%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
First 30 Min	S&P/TSX 60	10.4%	10.6%	11.3%	10.9%	11.4%	10.8%	11.2%	12.1%	11.7%	11.6%	11.3%	11.2%	10.5%
	S&P/TSX Composite	10.2%	10.7%	11.0%	10.9%	11.4%	10.8%	11.7%	12.6%	11.8%	12.3%	12.8%	12.1%	11.8%
Last 30 Min	S&P/TSX 60	27.5%	27.2%	28.8%	28.4%	27.8%	28.2%	31.0%	29.0%	30.0%	32.4%	29.4%	33.4%	36.8%
	S&P/TSX Composite	21.8%	21.3%	22.4%	22.5%	22.0%	22.1%	24.7%	23.2%	22.9%	24.9%	23.1%	23.9%	24.3%
Close	S&P/TSX 60	8.6%	8.6%	11.1%	9.9%	10.1%	8.4%	8.9%	8.9%	12.3%	11.4%	9.9%	15.8%	20.2%
	S&P/TSX Composite	4.0%	4.3%	5.1%	4.5%	4.7%	3.6%	3.8%	4.0%	4.9%	5.5%	5.2%	5.3%	5.0%

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



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