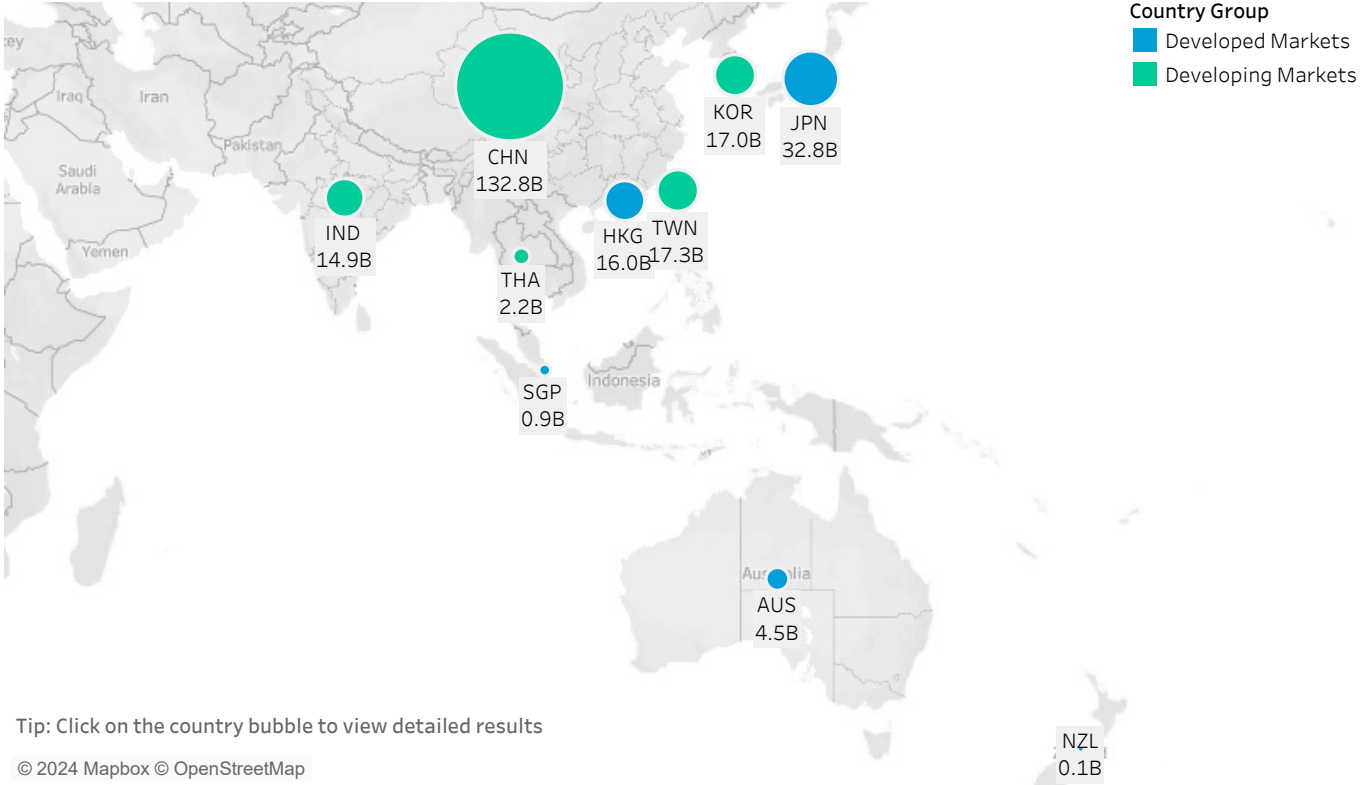


May 2024 APAC Market Structure Monthly

Average Daily Turnover (Notional USD)



Country Breakdowns

Hong Kong

China

Japan

Australia

South Korea

Taiwan

India

Thailand

New Zealand

Singapore

May 2024

AP Market Structure Monthly

MICROSTRUCTURE OBSERVATIONS

- Trading activity in Hong Kong extended its rebound since Q1 as average daily turnover (ADT) increased 25% month-over-month (MoM) to US\$16B in May 2024, the highest recorded since January 2023. Intraday volume remained front-loaded as the open auction saw 11% participation of full day volume in May 2024. Both volatility and spreads remained consistent with previous months.
- More volatile trading conditions were observed for India in May 2024 with higher intraday volatility and wider spreads. First half hour volatility increased to 20.1bps, the highest recorded in 12 months. This was accompanied by wider spreads and lower quote-size throughout the day, relative to recent months.
- There was a noticeable uptick in turnover for prints >300% MDV in mid-cap names in Australia in May 2024. Turnover for this segment increased 470% to US\$455M in May from US\$79M in the prior month.

AP MARKET STRUCTURE NEWS

Securities and Exchange Board of India Declines Market Hour Extension Proposal, Lacking Industry Consensus

On 7 May 2024, India's Financial Regulator, Securities and Exchange Board of India (SEBI), rejected the National Stock Exchange (NSE)'s proposal to extend trading hours for Index derivatives as brokers were against the move.

https://www.business-standard.com/markets/stock-market-news/sebi-turns-down-nse-proposal-on-extending-market-timings-for-derivatives-124050600810_1.html

The Financial Services Commission of South Korea Announced Plan to Introduce Alternative Trading System

On 9 May 2024, The Financial Services Commission (FSC) announced that starting in the first half of 2025, Korea's first alternative trading system (ATS), Nextrade, will begin to operate in the domestic market. According to FSC, this move aims to increase competition in Korea's capital market. FSC plans on setting the ATS stock trading hours to be greater than the primary exchange, from 08:00 am to 08:00 pm.

<https://www.fsc.go.kr/eng/pr010101/82268?srchCtgr=&curPage=&srchKey=&srchText=&srchBeginDt=&srchEndDt=>

Hong Kong Exchange and Clearing Limited, Shanghai Stock Exchange

On 3 May 2024, Hong Kong Exchange and Clearing Limited (HKEX) issued a circular regarding updated information on adjustments to market data dissemination of Stock Connect northbound and southbound

trading. Subject to the result of the Post Release Test on 11 May 2024, the market data dissemination changes became effective on 13 May 2024. The adjustments focus on the real-time publishing of Stock Connect quota/turnover and balances. For example, for both Southbound & Northbound Stock Connect, real-time available daily quota balance will be shown when it falls below 30%; otherwise indicated as “Available”. In addition, for the Northbound Stock Connect, real-time buy, sell and total turnover will not be available; historical daily / monthly total market turnover, number of trades, ETF turnover, and turnover of the top 10 most actively traded stocks will be shown. The adjustments also cover short selling balance data and CCASS Shareholding search.

<https://www.hkex.com.hk/-/media/HKEX-Market/Services/Circulars-and-Notices/Participant-and-Members-Circulars/SEHK/2024/CT05824E.pdf>

https://www.hkex.com.hk/News/Market-Communications/2024/2404122news?sc_lang=en

https://www.sse.com.cn/aboutus/mediacenter/hotandd/c/c_20240412_5737857.shtml (CHN)

https://www.szse.cn/aboutus/trends/news/t20240412_606835.html (CHN)

China Mulls Dividend Tax Waiver on Hong Kong Stocks Connect

On 9 May 2024, Bloomberg reported that regulators, including China Securities Regulatory Commission (CSRC) and the State Taxation Administration (STA), are reviewing a plan to waive the 20% tax on dividends from Hong Kong stocks on the Southbound Mainland China-Hong Kong Stock Connect (Southbound). According to the report, a final decision is still pending and there is no definite timeline to implement.

<https://www.bloomberg.com/news/articles/2024-05-09/china-mulls-dividend-tax-waiver-on-hk-stocks-bought-via-connect>

Singapore Exchange Launched World's First ETF Tracking Asia Pacific Financial Sector

On 13 May 2024, Singapore Exchange (SGX) Securities announced the listing of the first Exchange-Traded Fund (ETF) tracking the Asia Pacific financial sector, with assets under management (AUM) of SGD 47M (US\$35M) at launch. According to SGX, this ETF follows the performance of 30 of the largest financial institutions listed in Asia Pacific. With this listing, the SGX ETFs collectively represent a total AUM of SGD 11billion (US\$8.2B) as of end April 2024.

<https://www.sgxgroup.com/media-centre/20240513-sgx-securities-launches-worlds-first-etf-tracking-asia-pacifics>

To learn more, contact your sales representative or call our desk at:

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+1.646.682.6199

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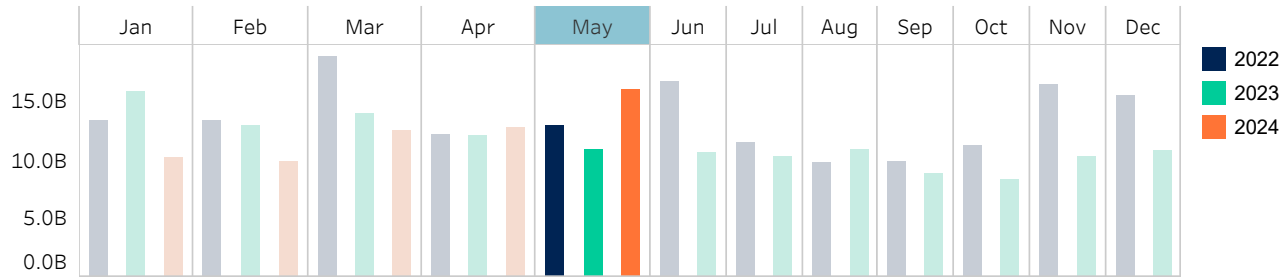
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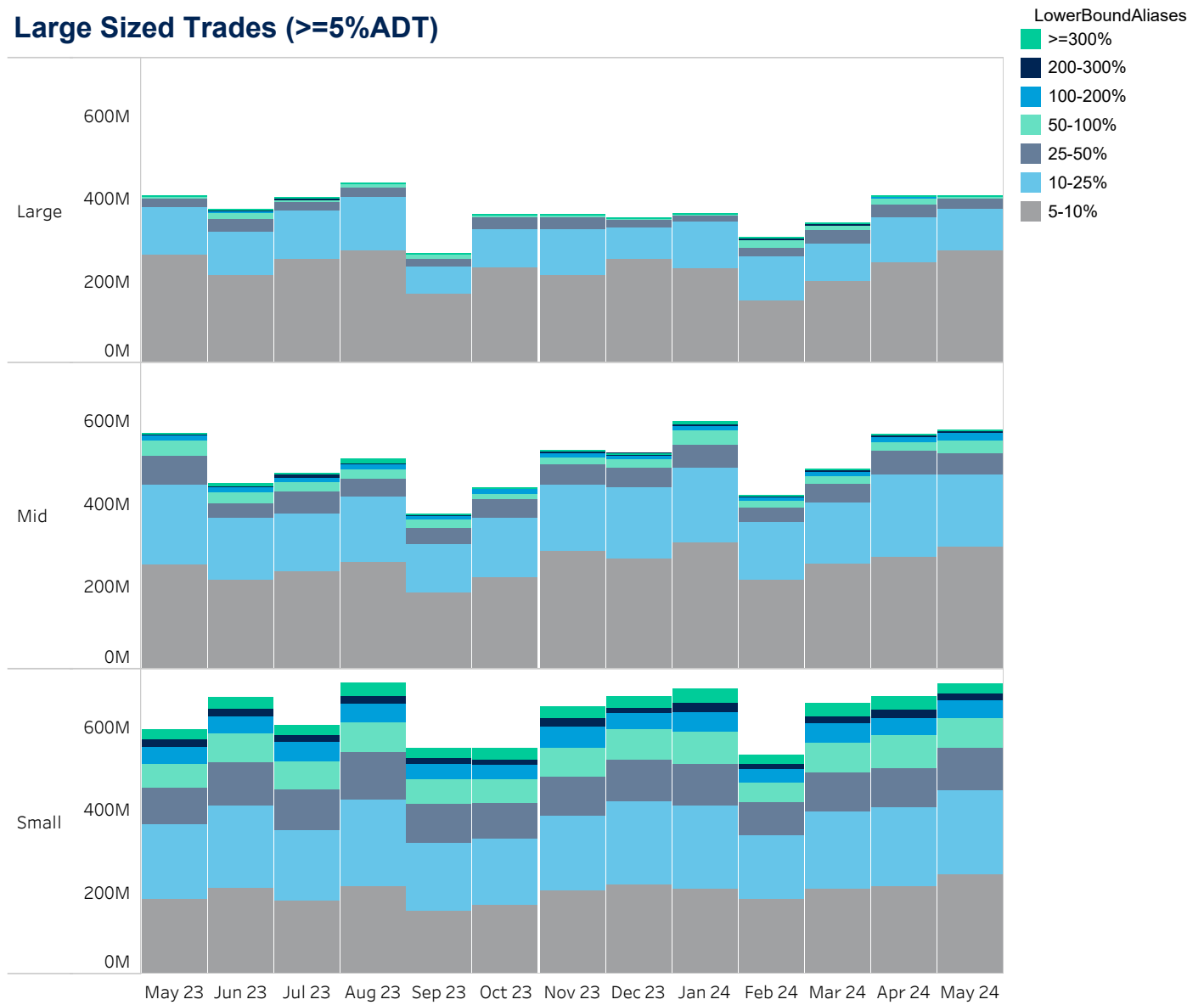
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Hong Kong

Average Daily Turnover (Notional USD)



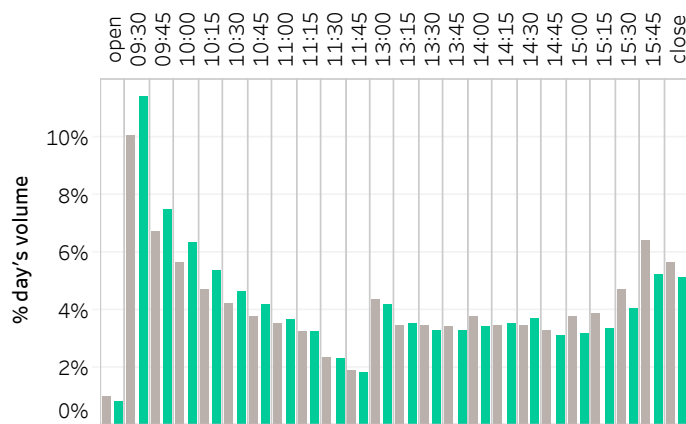
Large Sized Trades (>=5%ADT)



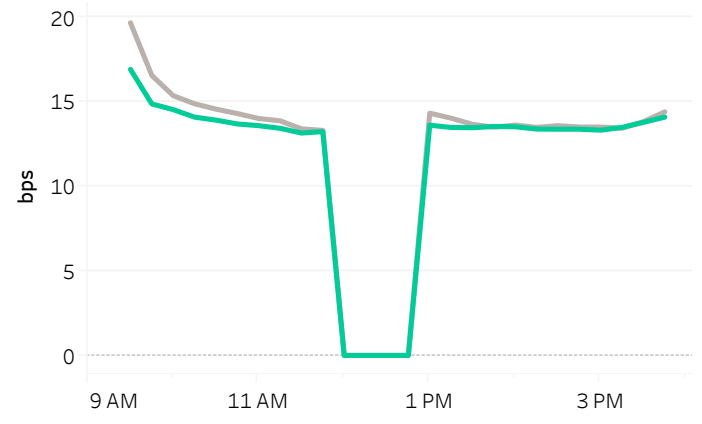
Source data: Virtu Financial

Hong Kong

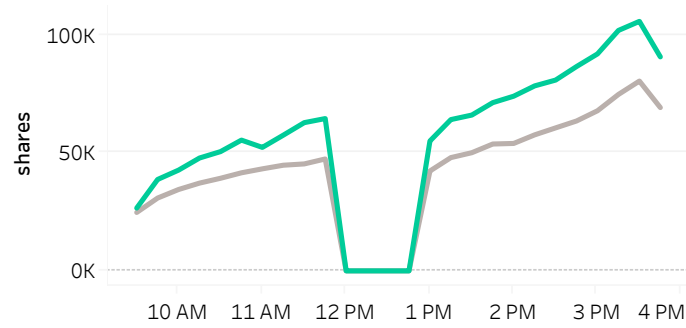
Volume Curve



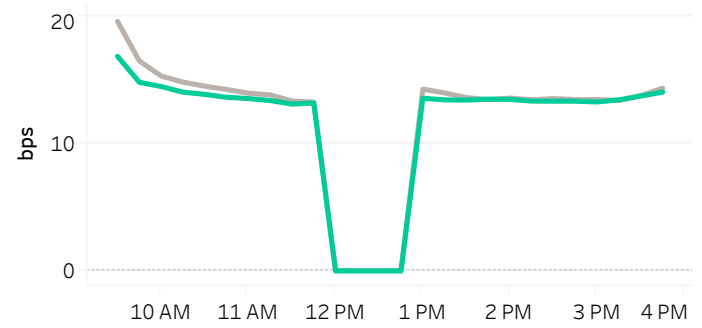
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



Rolling 12 Months Avg (brown) May 2024 (teal)

Spread Bps

	2023								2024				
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
FirstHalfHo..	19.5	19.6	18.3	18.7	18.1	18.4	17.1	17.0	16.7	16.8	16.2	16.3	16.0
MidDay	14.0	14.6	13.5	14.0	14.4	14.7	13.4	14.2	14.4	13.6	13.5	13.7	13.5
LastHalfHo..	14.1	14.9	13.8	13.9	14.8	15.0	14.3	15.2	15.1	14.3	13.8	13.9	13.9

One Minute Volatility Bps

FirstHalfHo..	25.2	24.1	23.6	25.8	23.8	24.3	24.3	24.1	25.7	26.8	26.1	26.5	26.0
MidDay	15.7	16.2	15.4	15.8	15.6	16.0	15.2	15.9	16.5	16.1	15.8	15.2	15.3
LastHalfHo..	16.3	17.2	15.7	16.1	16.5	16.6	16.9	17.6	17.3	16.4	15.9	15.3	15.9

Quotesize (shares)

FirstHalfHo..	29,974	26,818	25,478	27,693	28,391	27,601	23,593	24,188	25,581	23,164	28,948	34,226	31,313
MidDay	47,975	41,143	42,053	45,912	52,298	46,953	46,472	52,781	52,997	41,722	57,521	64,130	61,681
LastHalfHo..	74,417	64,333	69,285	74,613	78,499	77,442	72,387	70,619	79,360	72,944	95,535	97,872	98,721

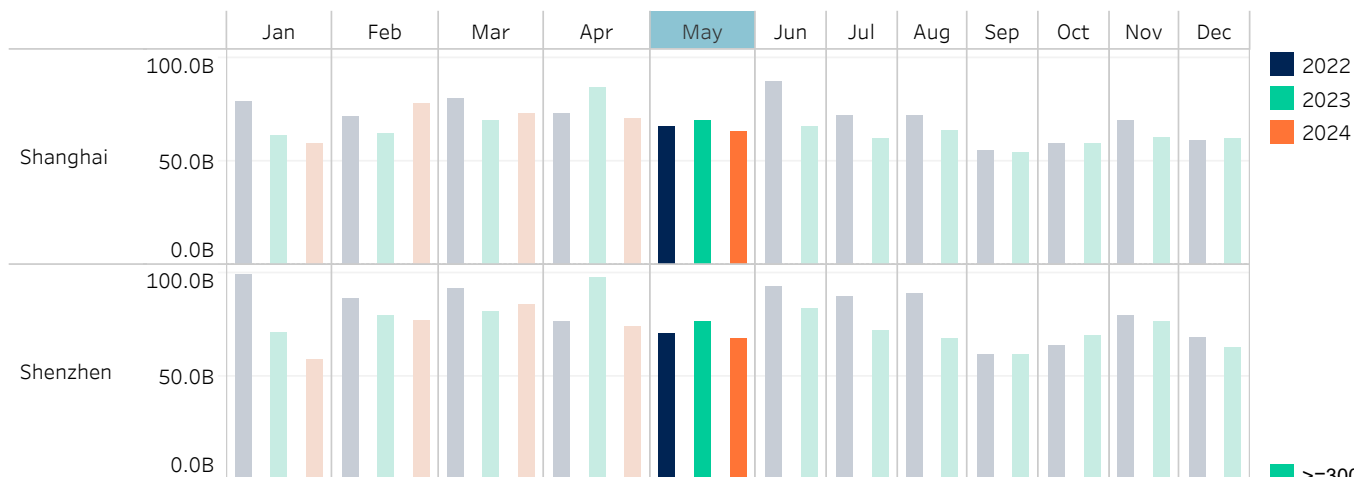
Median used for all metrics

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

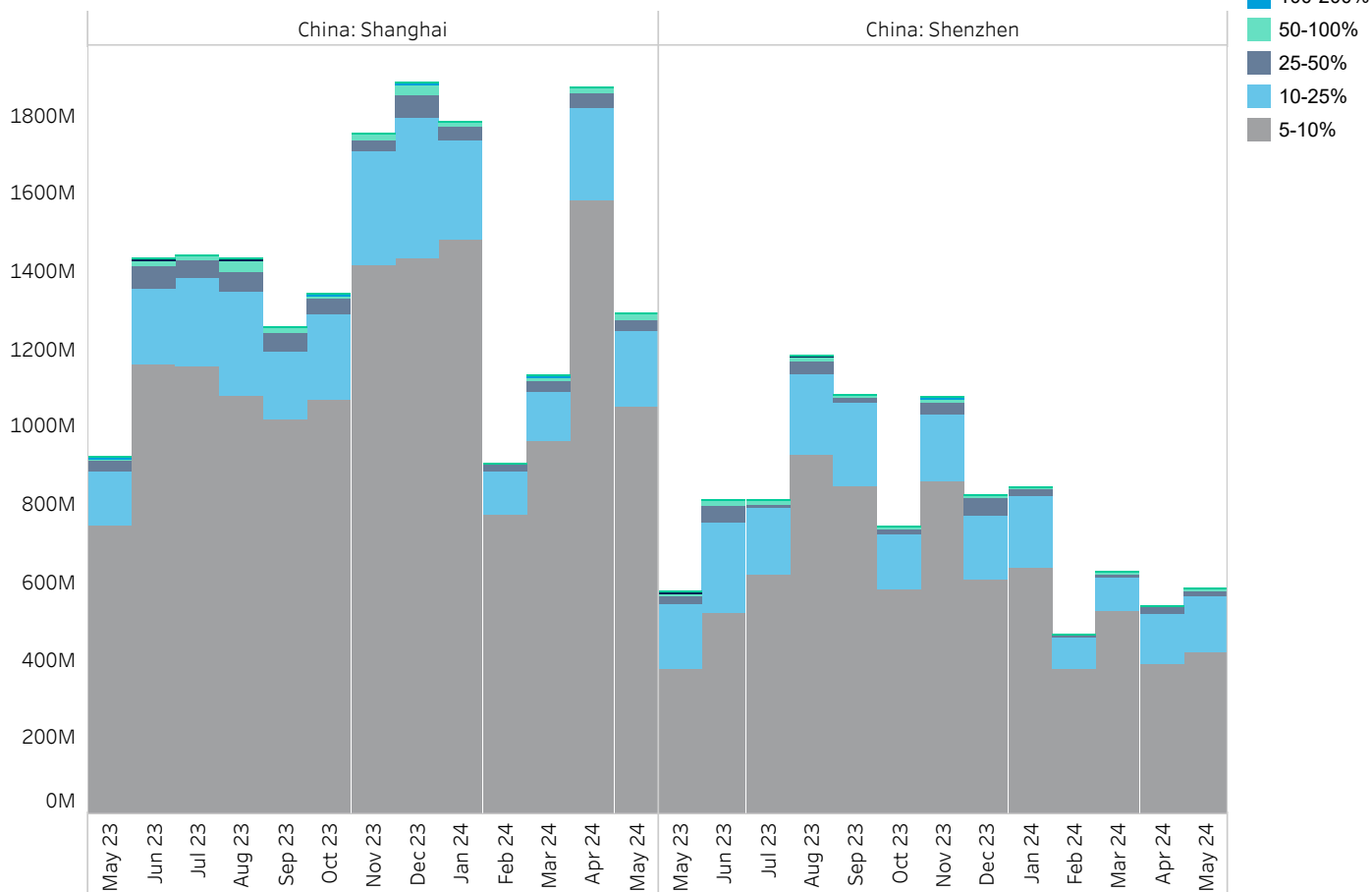
Source data: Virtu Financial

China

Average Daily Turnover (Notional USD)



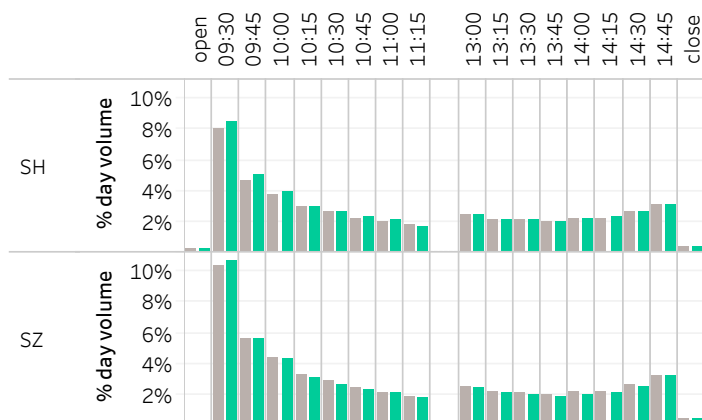
Large Sized Trades (>=5%ADT)



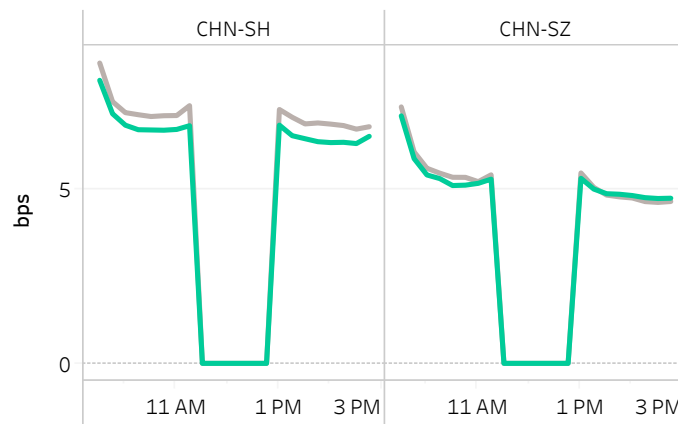
Source data: Virtu Financial

China

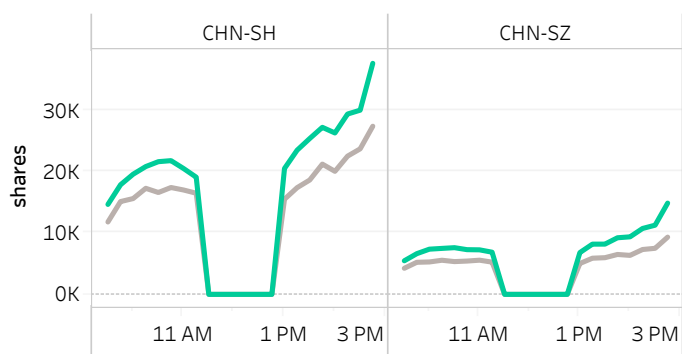
Volume Curve



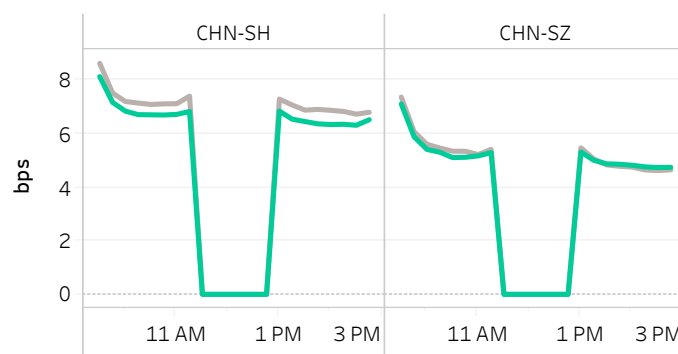
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



Rolling 12 Months Avg May 2024

Spread Bps

	CHN-SH								CHN-SZ							
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
FirstHalfHo..	8.2	7.5	8.1	8.7	8.9	8.0	8.2	7.7	7.0	6.4	6.6	7.1	7.4	6.5	6.8	6.6
MidDay	7.1	6.9	7.4	8.0	7.8	7.1	7.0	6.7	5.4	5.1	5.5	5.9	6.0	5.4	5.5	5.2
LastHalfHo..	7.1	6.8	7.4	8.2	7.8	7.0	6.7	6.4	5.0	4.7	5.1	5.8	5.6	5.1	5.0	4.8

One Minute Volatility Bps

FirstHalfHo..	27.6	32.4	25.6	25.6	21.2	23.4	29.1	25.2	30.2	34.1	28.0	28.2	23.2	25.9	30.2	26.0
MidDay	17.3	18.8	15.3	13.9	13.0	14.5	14.6	13.3	15.7	18.9	14.6	13.0	11.3	12.7	14.0	11.9
LastHalfHo..	18.1	17.8	14.5	14.2	12.8	14.7	13.9	12.7	15.7	15.8	12.6	12.7	10.7	12.1	11.7	10.5

Quotesize (shares)

FirstHalfHo..	12,742	16,573	15,099	13,651	14,145	16,705	14,795	16,130	5,099	5,595	4,563	4,495	4,979	6,105	5,677	5,977
MidDay	16,209	21,210	18,639	16,308	16,111	19,611	19,057	21,688	5,775	6,549	5,263	5,280	5,654	6,860	6,807	7,527
LastHalfHo..	23,440	30,704	25,698	20,444	24,112	29,770	29,522	33,861	8,647	10,309	8,150	7,099	8,454	10,445	11,277	12,303

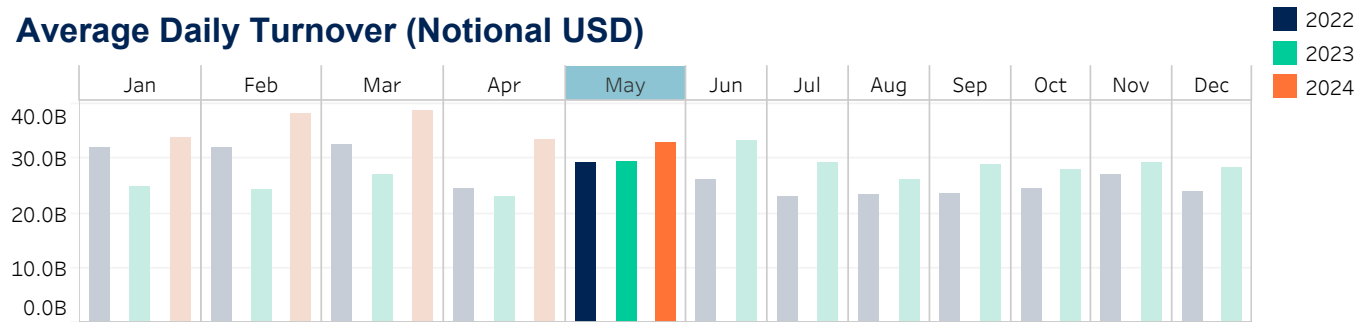
Median used for all metrics

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

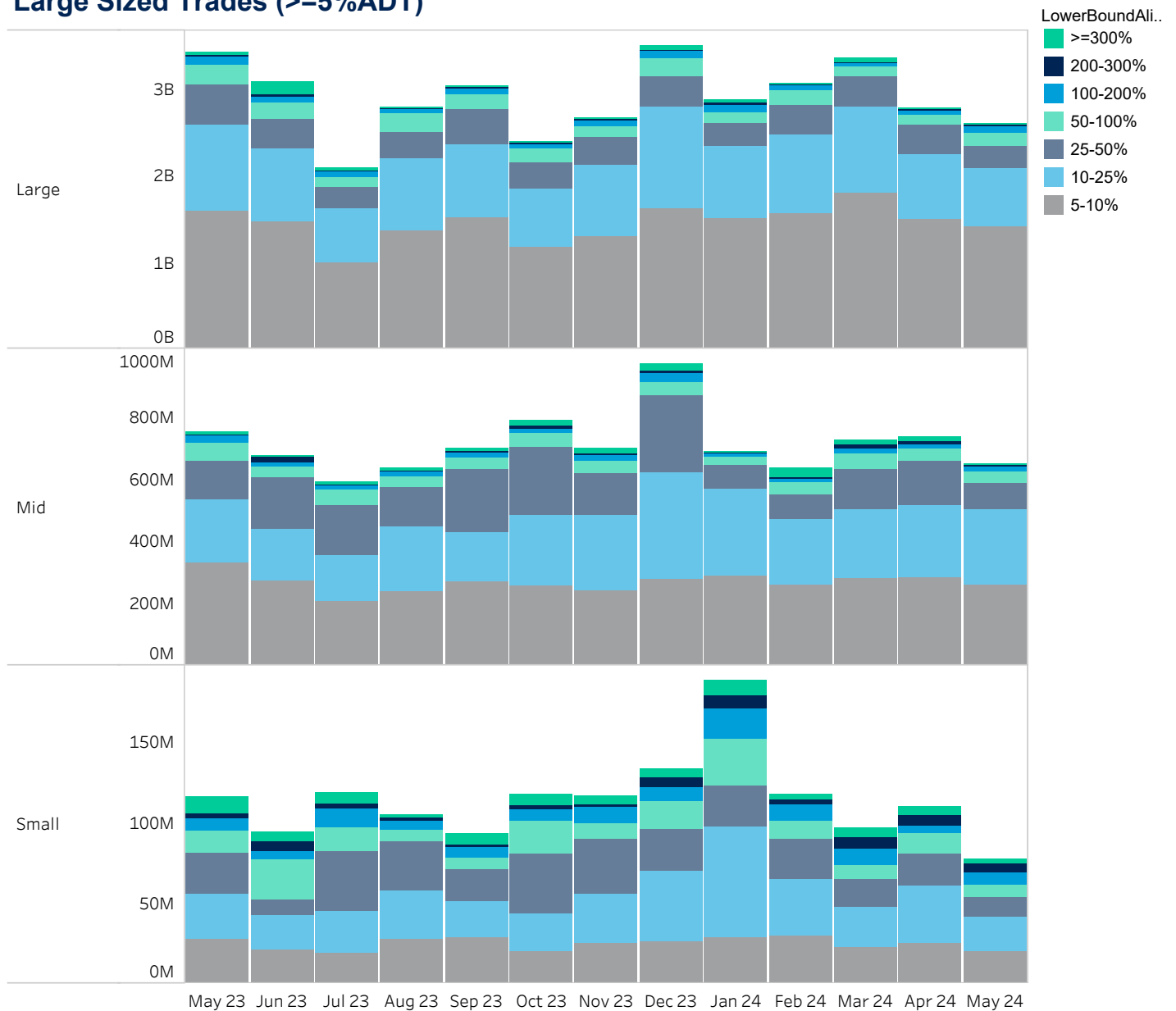
Source data: Virtu Financial

Japan

Average Daily Turnover (Notional USD)



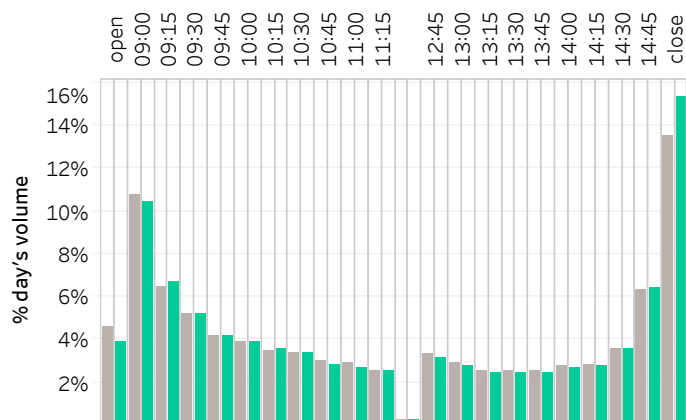
Large Sized Trades (>=5%ADT)



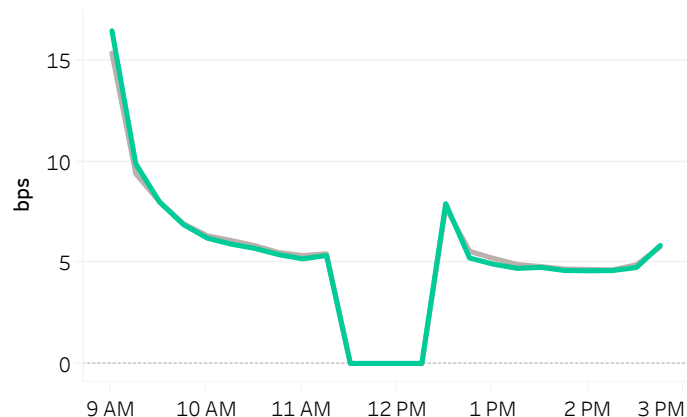
Source data: Virtu Financial

Japan

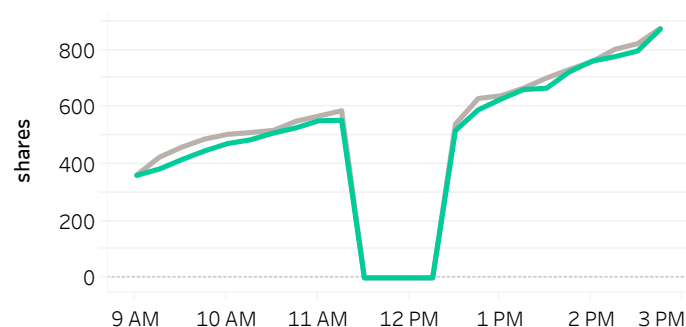
Volume Curve



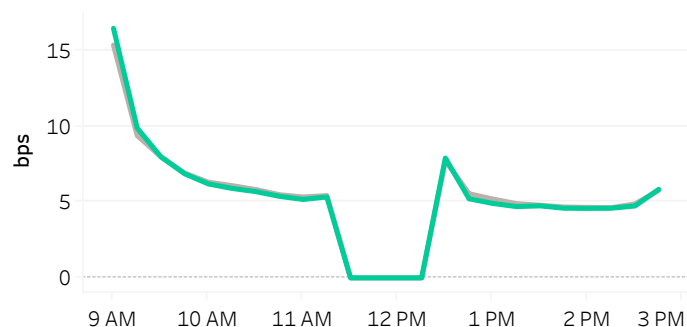
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



Rolling 12 Months Avg (Grey line) May 2024 (Green line)

Spread Bps

	2023						2024						
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
FirstHalfHo..	15.5	12.4	11.7	12.2	11.4	13.0	13.5	11.7	11.6	13.1	12.8	12.3	13.0
MidDay	8.9	5.7	5.2	5.4	5.2	5.8	6.0	5.3	5.3	6.0	5.6	5.7	5.5
LastHalfHo..	9.2	5.4	5.0	4.9	5.1	5.7	5.5	5.1	4.9	5.6	5.5	5.2	5.3

One Minute Volatility Bps

FirstHalfHo..	16.4	14.8	14.2	14.8	14.1	16.0	16.8	14.7	14.9	17.1	16.7	16.6	17.4
MidDay	8.5	6.7	5.9	6.1	6.0	7.1	7.3	6.2	6.4	7.3	7.1	7.5	7.0
LastHalfHo..	9.3	7.1	6.6	6.4	6.8	7.9	7.5	7.0	6.8	7.6	7.7	7.7	7.6

Quotesize (shares)

FirstHalfHo..	569	427	386	379	388	340	340	357	359	369	369	358	370
MidDay	968	582	569	575	580	494	526	551	555	549	534	499	550
LastHalfHo..	1,578	860	855	882	829	694	779	750	764	784	739	720	834

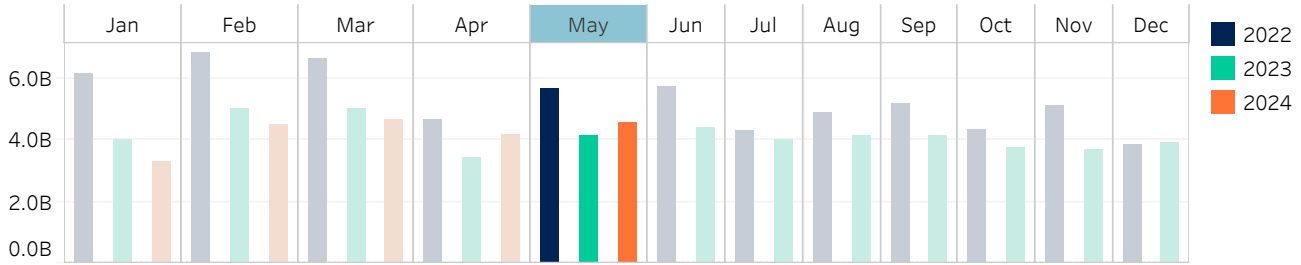
Median used for all metrics

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

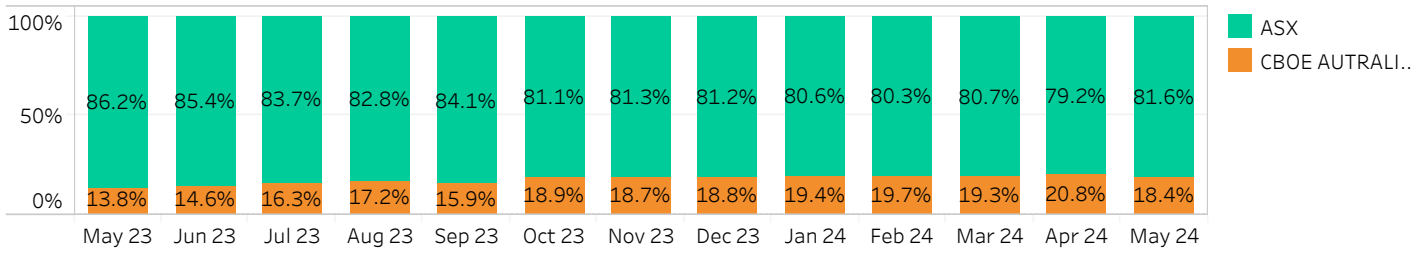
Source data: Virtu Financial

Australia

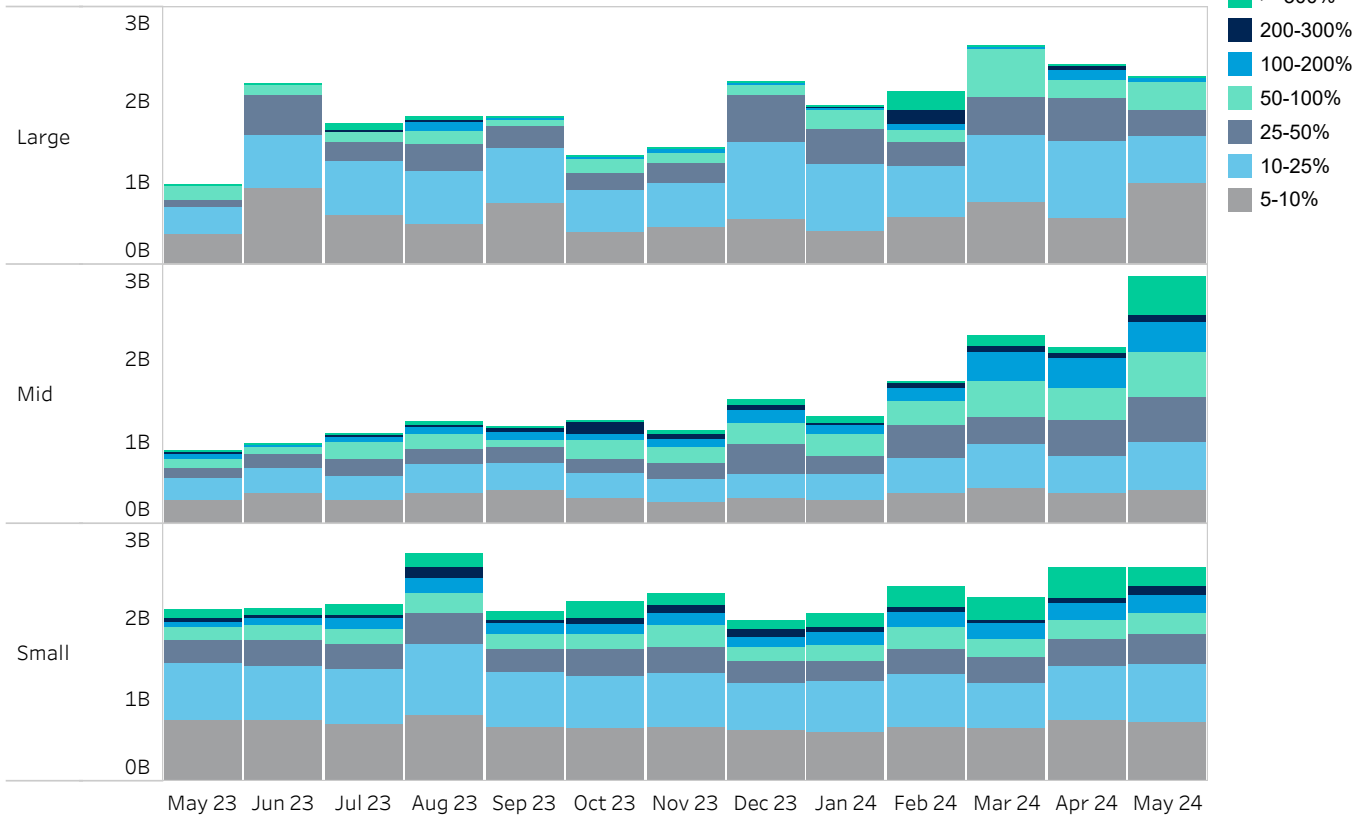
Average Daily Turnover (Notional USD)



Venue Market Share (Notional USD)



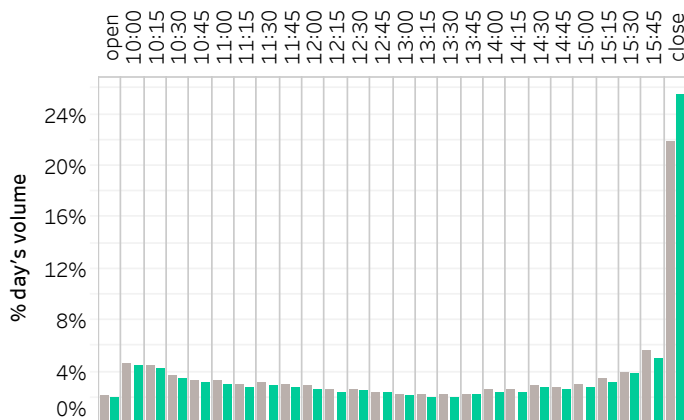
Large Sized Trades (>=5%ADT)



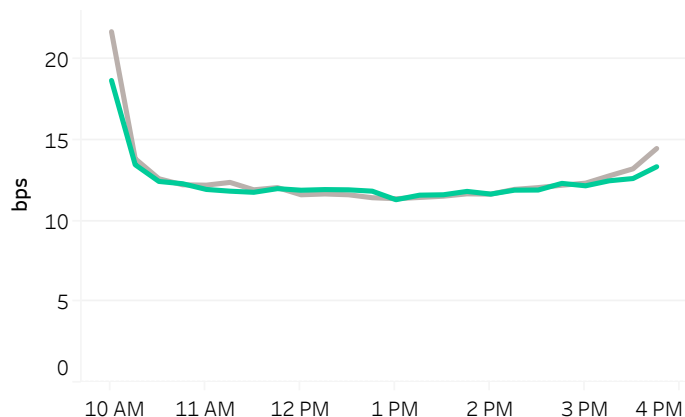
Source data: Virtu Financial

Australia

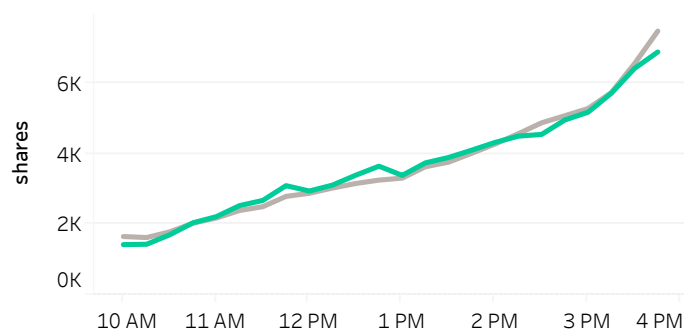
Volume Curve



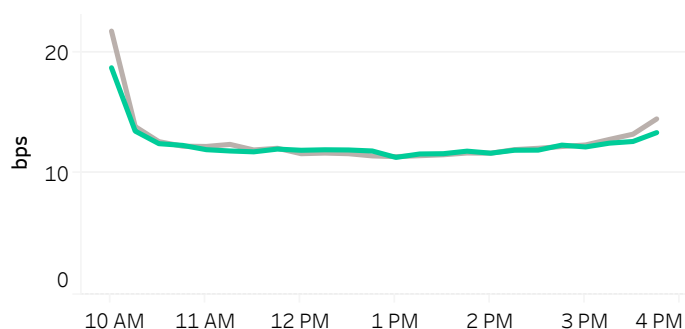
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



Rolling 12 Months Avg (Grey line) May 2024 (Green line)

Spread Bps

	2023								2024				
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
FirstHalfHo..	17.0	16.6	16.6	16.6	17.0	18.7	18.1	17.6	16.7	17.7	16.7	16.3	15.6
MidDay	11.6	11.8	11.3	11.1	12.3	13.1	13.1	12.6	12.0	12.5	11.9	11.7	11.9
LastHalfHo..	13.7	14.0	13.9	14.1	14.7	15.4	15.1	14.1	13.7	13.7	13.5	13.1	13.1

One Minute Volatility Bps

FirstHalfHo..	19.1	18.7	18.0	18.9	17.9	19.4	18.7	18.3	16.7	19.2	18.2	18.4	18.0
MidDay	9.2	9.8	9.5	9.7	9.6	10.6	10.8	10.1	9.5	10.5	10.0	9.6	10.1
LastHalfHo..	11.9	12.5	11.9	12.4	12.7	13.5	13.3	12.5	11.7	12.6	12.2	11.7	12.0

Quotesize (shares)

FirstHalfHo..	1,897	1,901	1,672	1,703	1,756	1,601	1,443	1,515	1,528	1,587	1,547	1,545	1,433
MidDay	3,313	3,860	3,520	3,310	3,720	3,289	3,147	3,258	3,388	3,303	3,261	2,984	3,555
LastHalfHo..	7,163	8,042	7,173	7,405	7,388	7,156	6,633	6,873	6,851	6,654	6,518	6,090	6,636

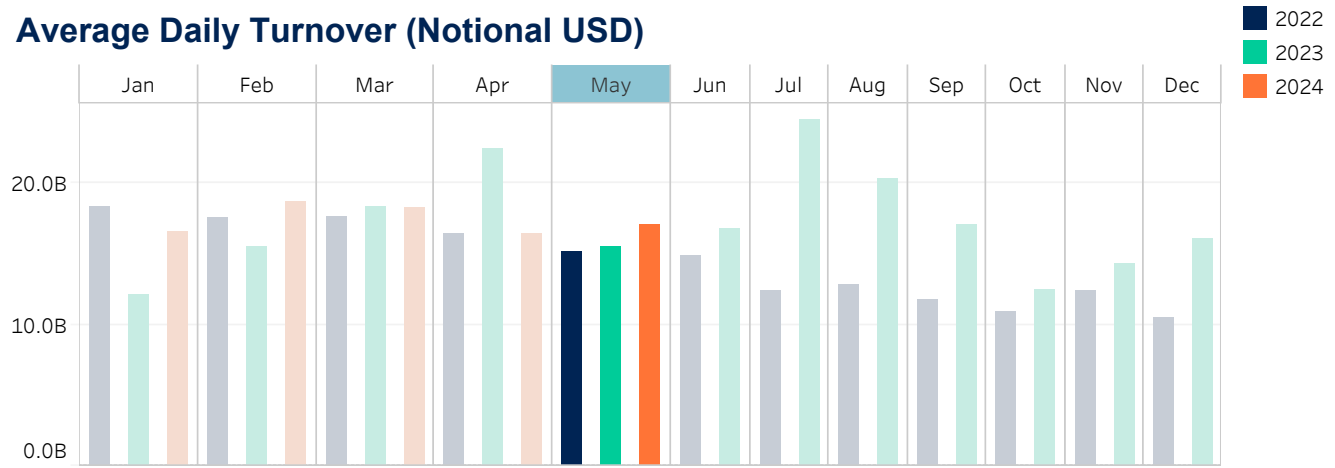
Median used for all metrics

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

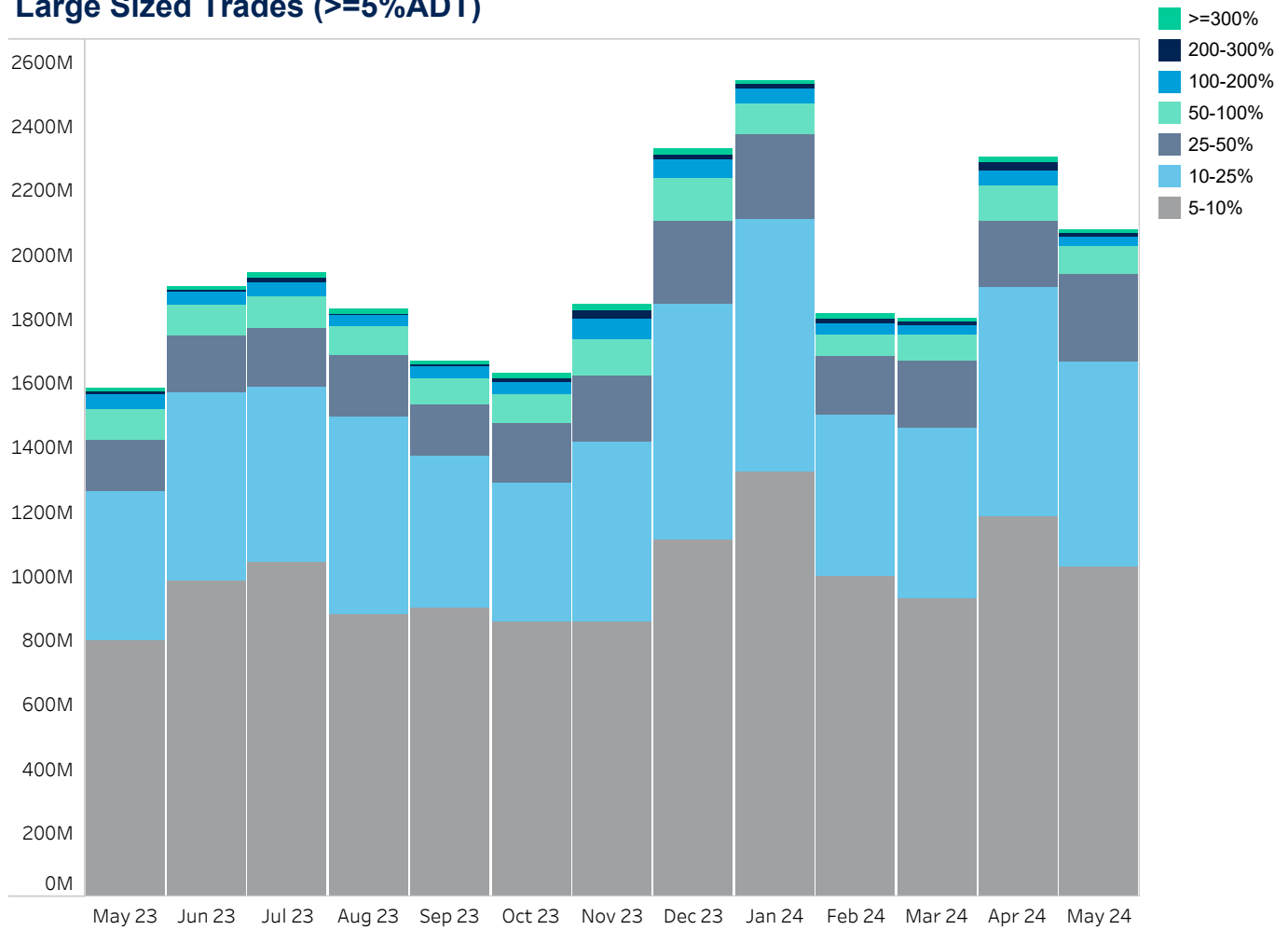
Source data: Virtu Financial

South Korea

Average Daily Turnover (Notional USD)



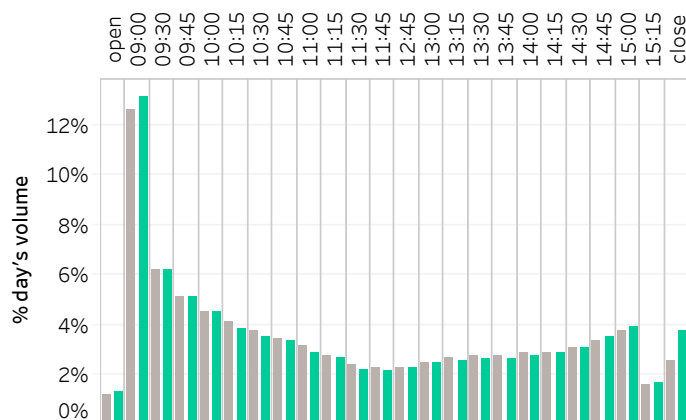
Large Sized Trades (>=5%ADT)



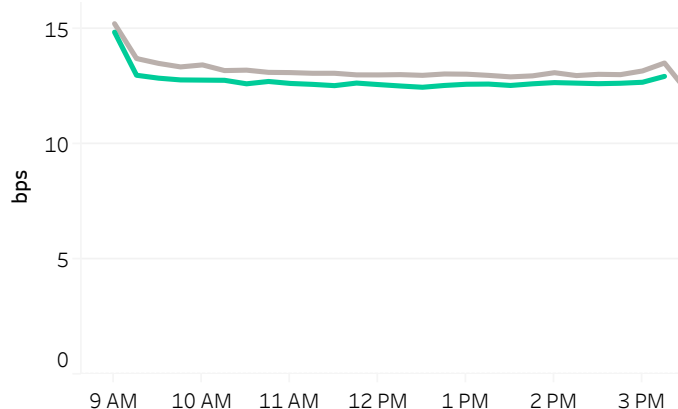
Source data: Virtu Financial

Korea

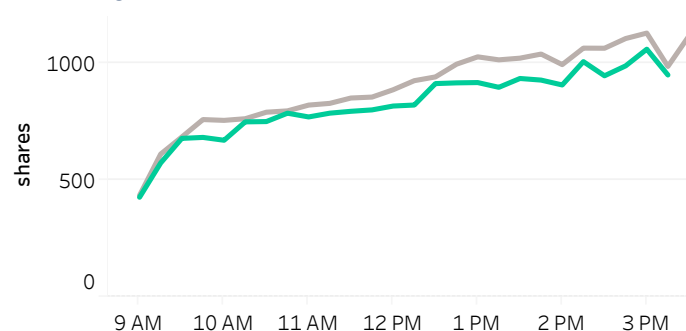
Volume Curve



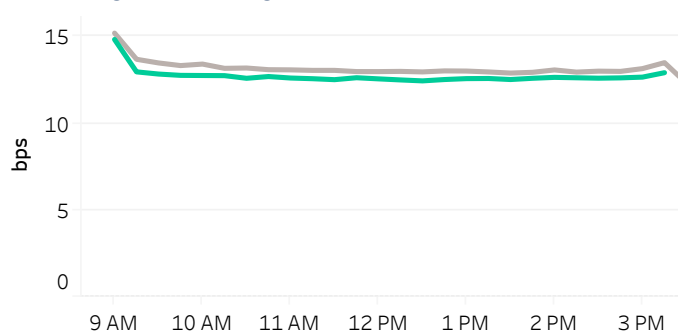
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



Rolling 12 Months Avg May 2024

Spread Bps

	2023									2024				
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
FirstHalfHo..	14.0	13.7	14.3	14.2	13.9	14.5	14.5	14.3	15.1	15.6	14.3	14.5	14.0	
MidDay	12.9	12.9	13.2	12.8	12.5	12.8	13.1	12.8	13.6	13.6	12.4	12.7	12.7	
LastHalfHo..	13.0	13.0	13.3	12.8	12.6	13.2	13.4	13.3	13.8	13.9	12.6	12.8	12.8	

One Minute Volatility Bps

FirstHalfHo..	22.7	21.5	27.1	26.7	23.3	27.5	25.1	22.2	25.7	31.4	27.9	27.8	25.5
MidDay	14.2	14.0	14.9	14.3	14.0	14.6	15.1	14.5	15.7	16.4	15.7	15.6	14.9
LastHalfHo..	14.9	14.8	16.2	15.2	15.3	16.1	14.9	16.3	17.1	17.6	16.5	17.1	16.0

Quotesize (shares)

FirstHalfHo..	579.9	634.3	563.4	491.2	491.0	443.8	457.6	535.9	445.6	465.2	451.8	457.9	501.0
MidDay	1,165.6	1,249.0	1,023.8	875.5	922.8	808.1	760.3	895.4	806.7	749.1	773.4	713.4	826.0
LastHalfHo..	1,276.8	1,443.6	1,164.2	1,108.1	1,065.7	911.6	920.9	1,010.4	871.0	901.7	952.1	900.4	1,036.0

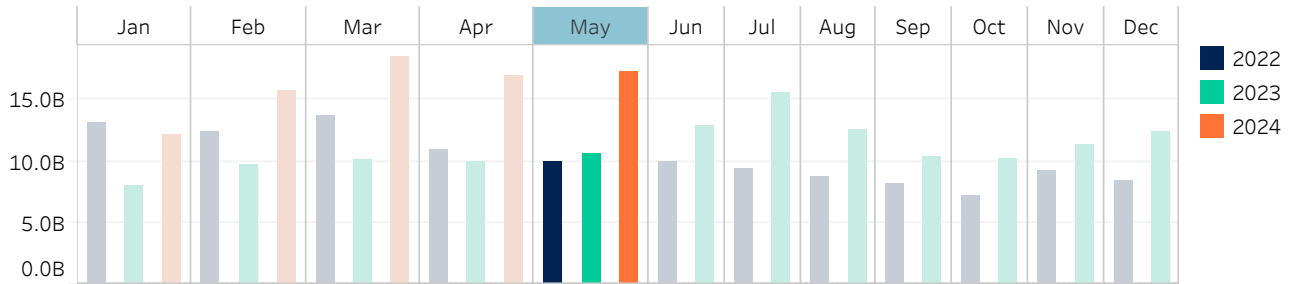
Median used for all metrics

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

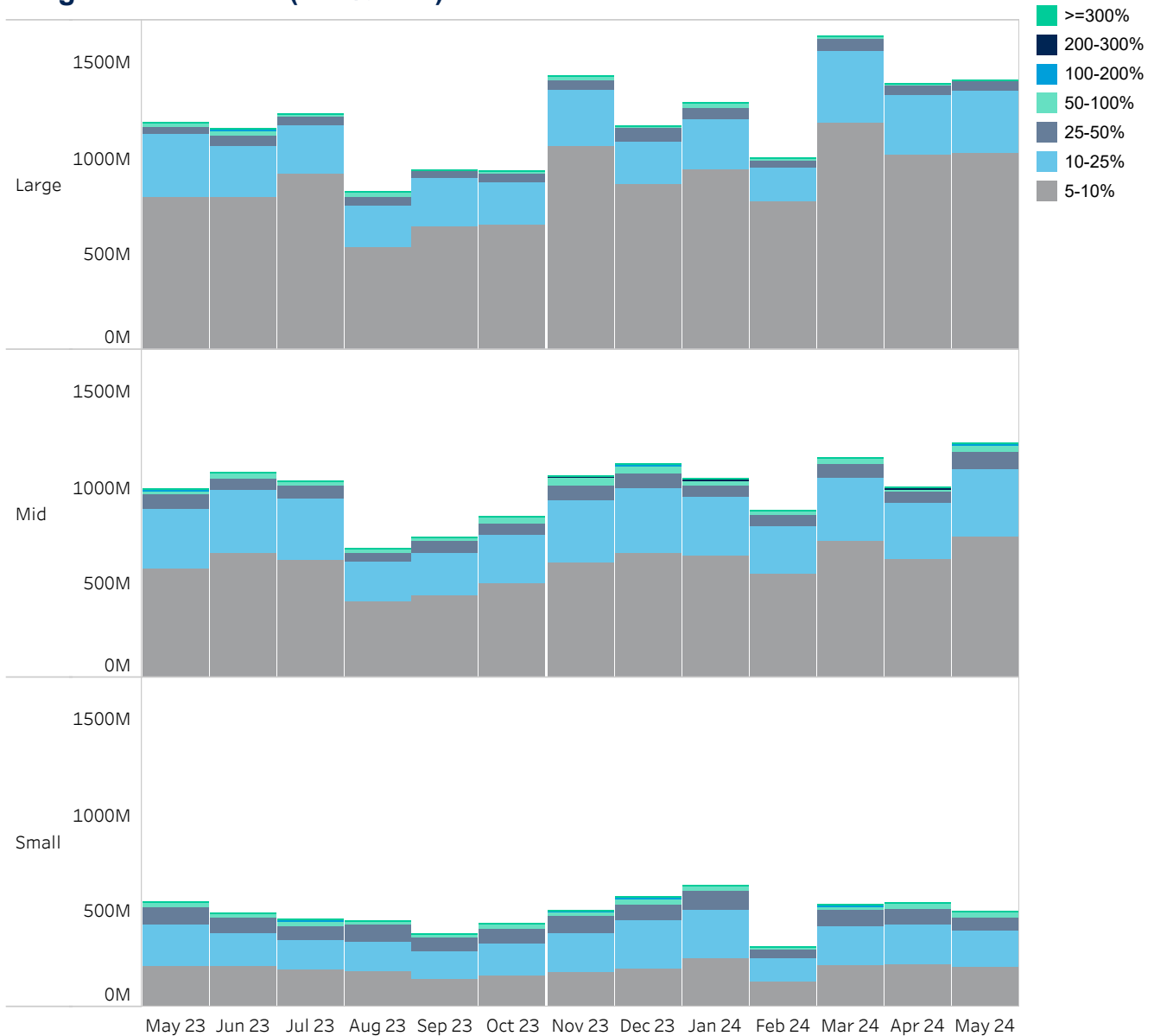
Source data: Virtu Financial

Taiwan

Average Daily Turnover (Notional USD)



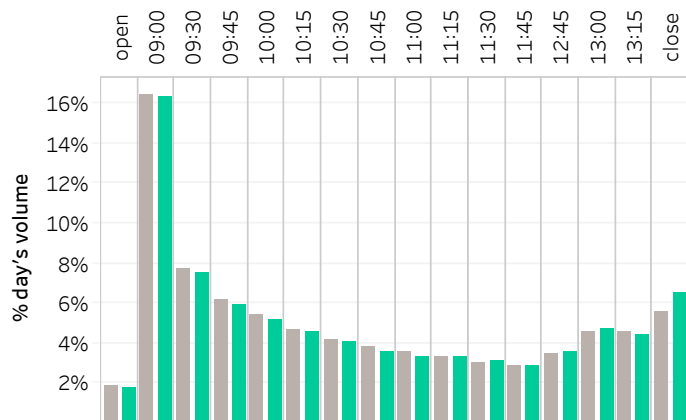
Large Sized Trades (>=5%ADT)



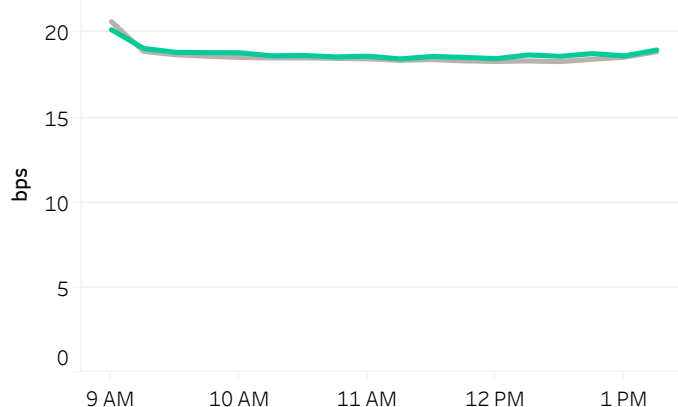
Source data: Virtu Financial

Taiwan

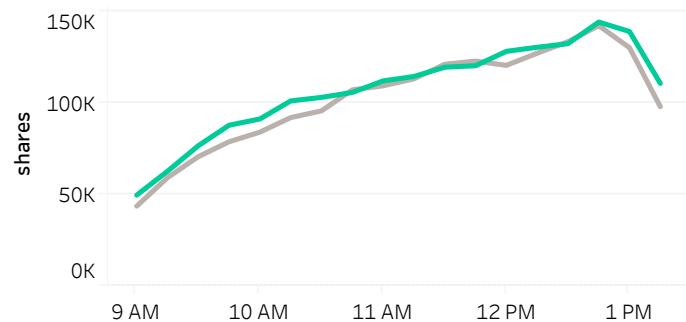
Volume Curve



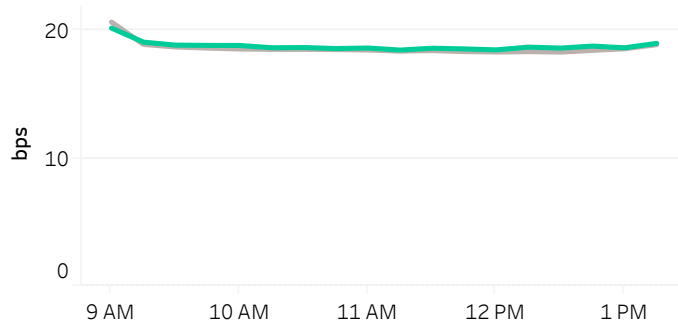
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



Rolling 12 Months Avg (Grey line) May 2024 (Green line)

Spread Bps

	2023								2024				
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
FirstHalfHo..	19.8	19.3	19.6	20.5	19.9	20.3	19.6	19.5	19.6	19.5	19.5	19.8	19.6
MidDay	18.2	17.8	18.0	18.8	18.8	19.0	18.2	18.6	18.6	18.3	18.3	18.4	18.8
LastHalfHo..	18.3	18.1	18.3	18.8	19.0	19.1	18.6	18.7	18.8	18.3	18.6	18.6	18.9

One Minute Volatility Bps

FirstHalfHo..	31.3	31.2	34.5	37.1	32.6	33.3	29.9	30.6	32.8	31.3	32.7	32.9	34.8
MidDay	28.1	28.4	31.5	36.4	29.8	31.1	26.4	27.8	29.2	28.6	28.9	28.7	28.6
LastHalfHo..	28.3	28.9	32.6	34.4	29.9	31.5	27.6	28.1	30.3	28.7	30.4	29.5	30.3

Quotesize (shares)

FirstHalfHo..	60,150	57,819	51,257	44,628	44,984	46,915	50,161	52,263	57,046	48,244	57,635	48,604	56,638
MidDay	133,760	139,513	105,466	95,368	103,352	109,280	111,917	104,185	124,365	117,027	110,699	96,467	113,228
LastHalfHo..	127,420	122,742	102,051	100,542	105,527	109,997	124,934	124,186	118,507	116,047	117,591	108,108	123,357

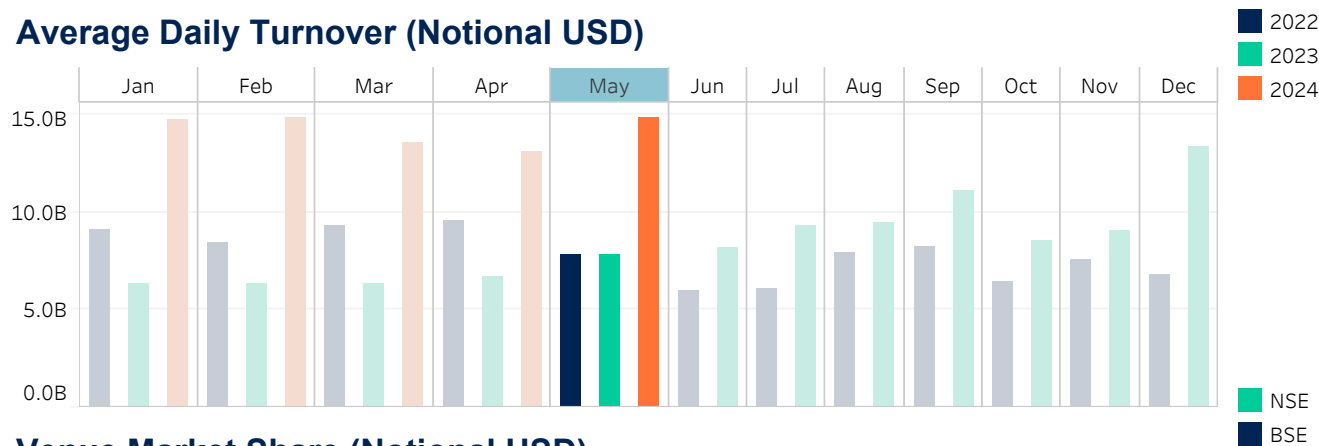
Median used for all metrics

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

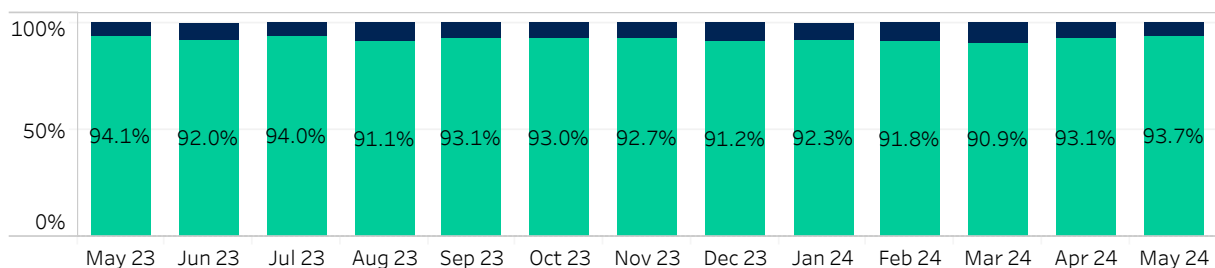
Source data: Virtu Financial

India

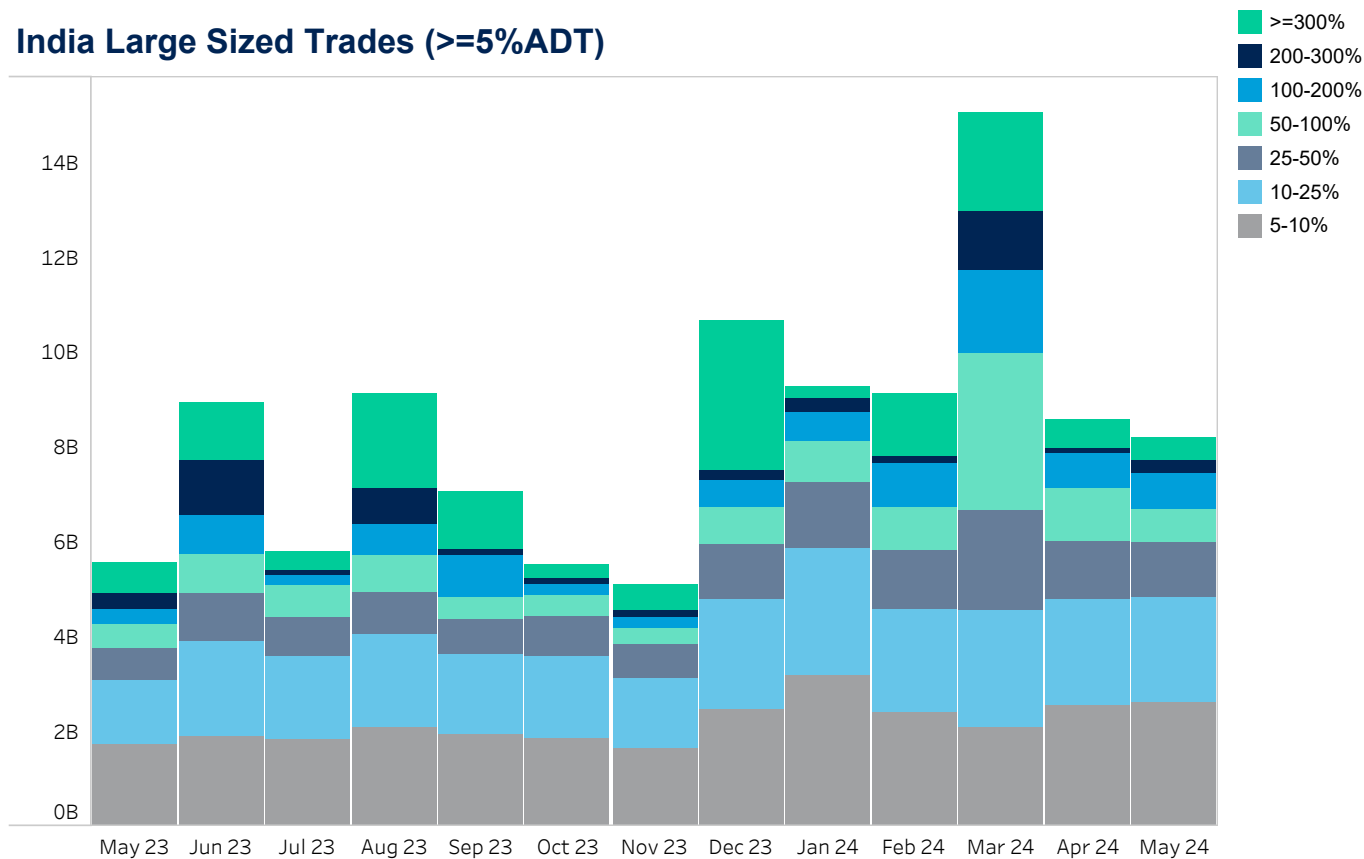
Average Daily Turnover (Notional USD)



Venue Market Share (Notional USD)



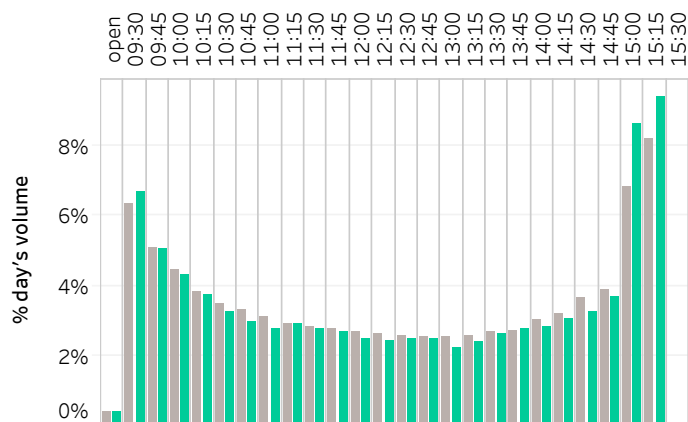
India Large Sized Trades (>=5%ADT)



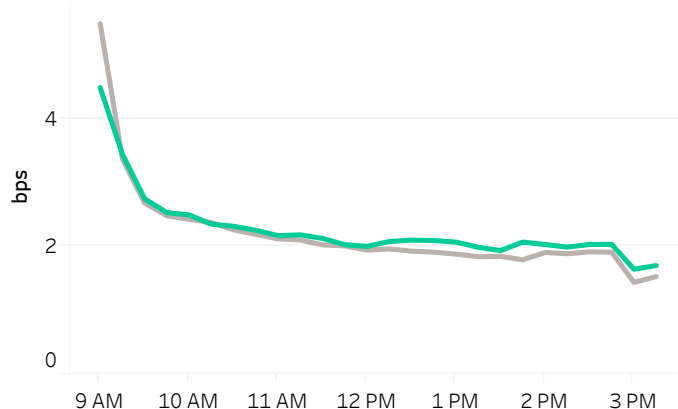
Source data: Virtu Financial

India

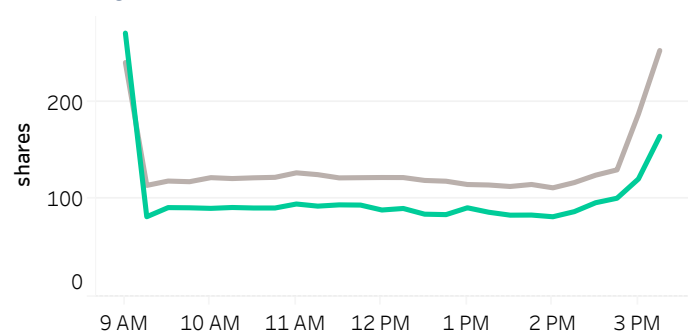
Volume Curve



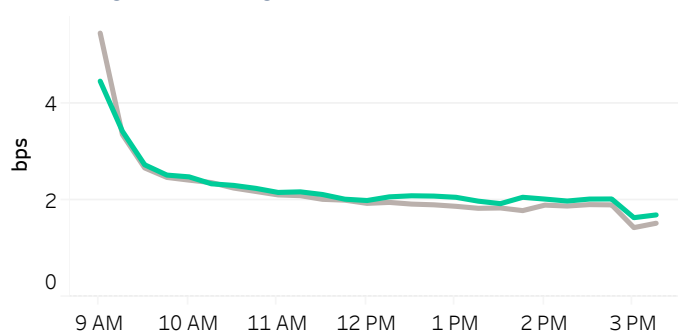
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



Rolling 12 Months Avg (brown line) May 2024 (green line)

Spread Bps

	2023									2024				
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
FirstHalfHo..	3.3	3.1	3.5	3.5	3.5	3.4	3.2	3.4	3.5	3.5	3.3	3.4	3.5	
MidDay	2.0	1.9	1.9	1.9	2.0	1.8	2.0	1.9	1.9	2.0	1.9	2.0	2.1	
LastHalfHo..	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.4	1.7	

One Minute Volatility Bps

FirstHalfHo..	16.6	15.2	17.6	16.2	16.3	17.3	14.7	17.9	19.6	19.6	19.5	19.6	20.1
MidDay	7.0	6.8	7.7	7.4	7.6	7.6	7.1	8.0	8.7	9.1	8.9	8.4	8.9
LastHalfHo..	9.2	9.1	9.9	9.6	9.6	9.5	8.7	10.5	10.8	11.2	12.1	10.6	11.6

Quotesize (shares)

FirstHalfHo..	142.2	143.1	131.7	114.8	117.2	112.5	108.1	118.4	102.2	90.9	91.8	88.1	85.8
MidDay	151.0	151.7	124.1	118.6	120.7	108.5	116.7	118.3	99.1	90.4	91.0	94.1	90.6
LastHalfHo..	262.0	268.0	231.3	206.0	230.8	197.4	229.1	196.5	182.0	169.3	188.1	191.5	147.4

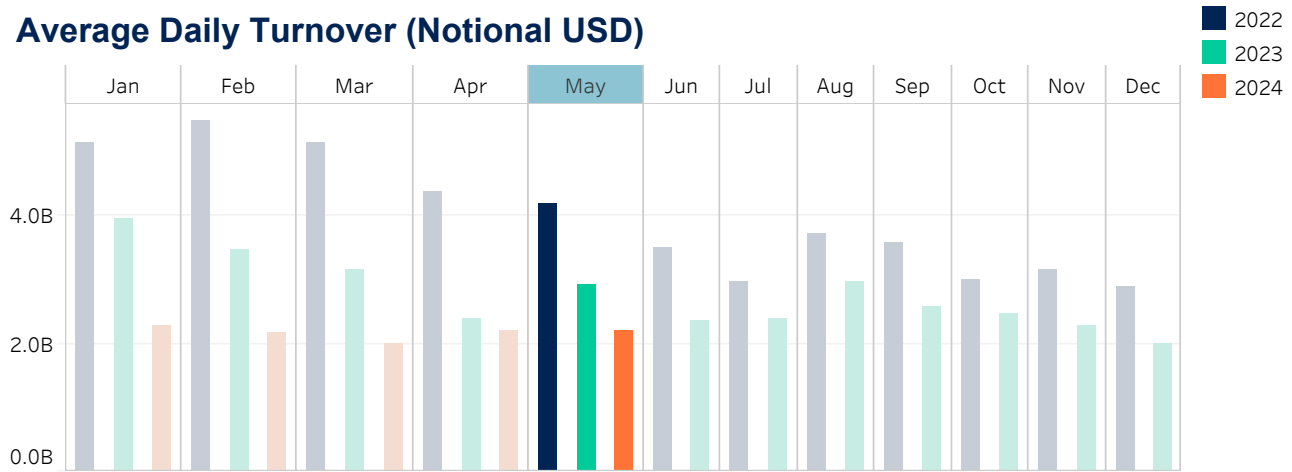
Median used for all metrics

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

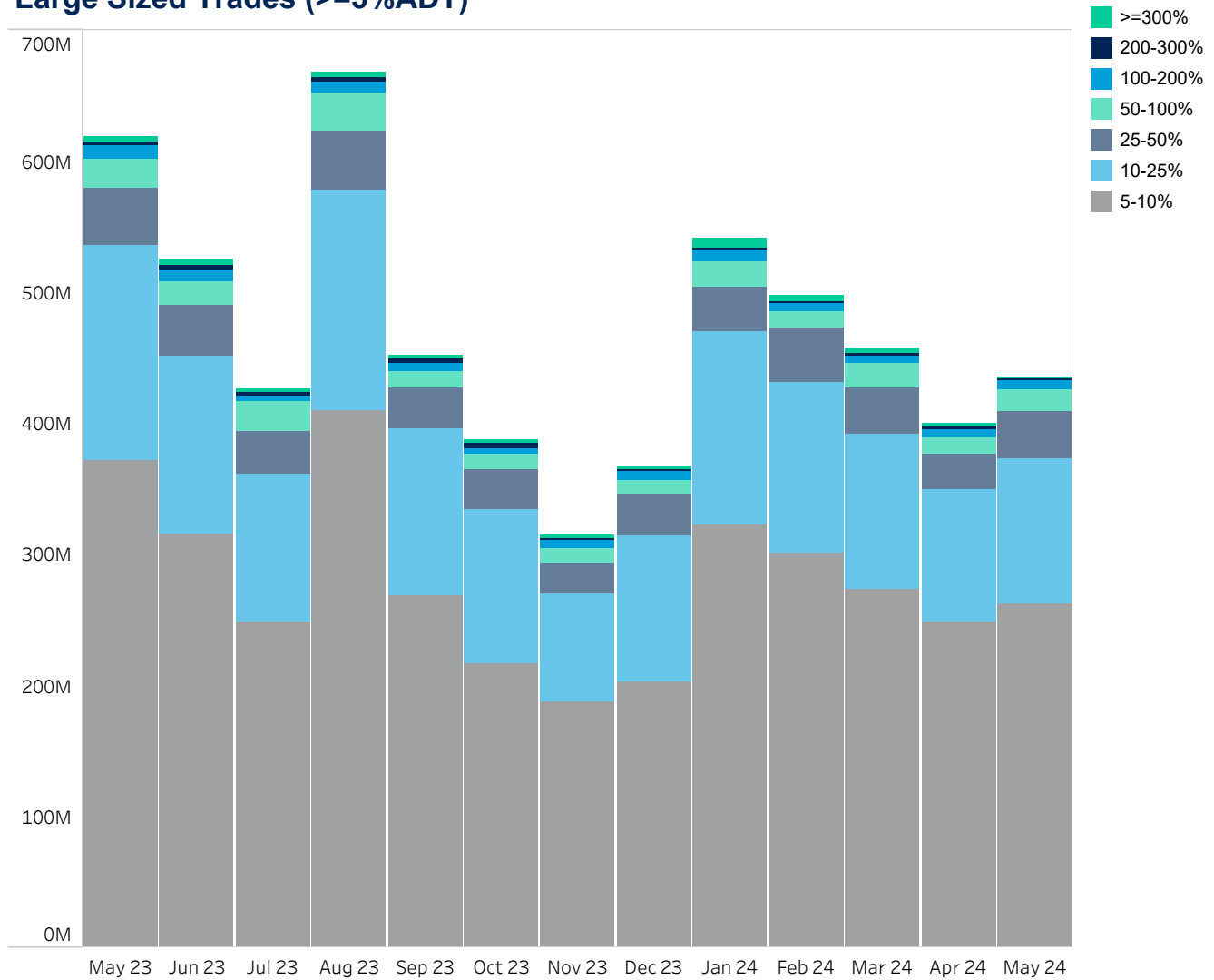
Source data: Virtu Financial

Thailand

Average Daily Turnover (Notional USD)



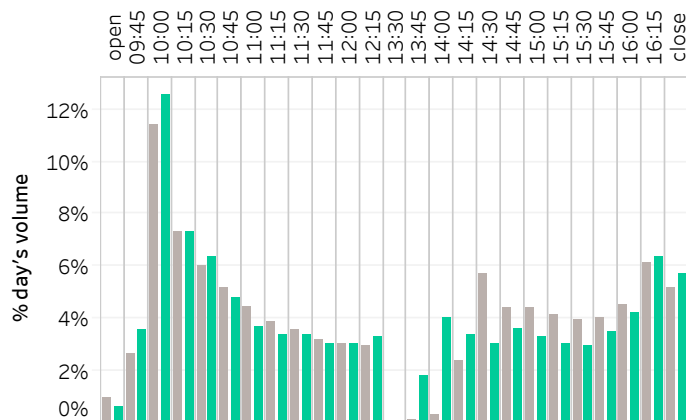
Large Sized Trades (>=5%ADT)



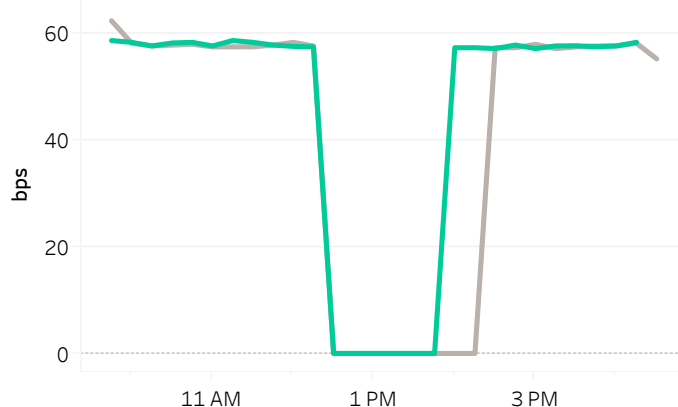
Source data: Virtu Financial

Thailand

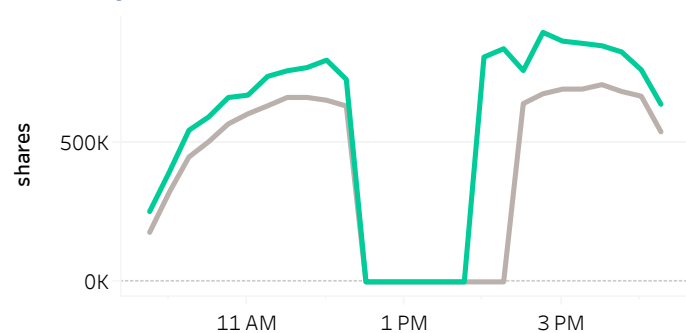
Volume Curve



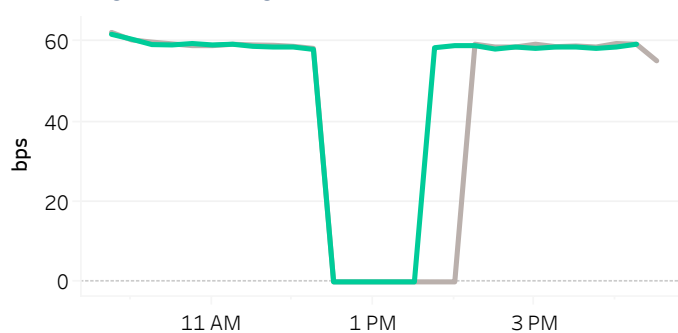
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



Rolling 12 Months Avg (brown) May 2024 (green)

Spread Bps

	2023									2024				
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
FirstHalfHo..	65.1	65.6	61.9	62.3	61.9	64.3	62.7	64.0	61.2	60.1	58.8	60.0	58.7	
MidDay	58.4	59.3	56.7	56.3	58.7	59.3	58.3	59.2	57.6	57.0	56.2	58.0	57.6	
LastHalfHo..	58.7	59.3	58.0	57.0	59.0	59.3	59.0	51.4	58.3	57.3	56.3	58.0	58.0	

One Minute Volatility Bps

FirstHalfHo..	63.9	63.5	60.4	61.7	61.2	64.3	63.5	63.8	61.2	62.3	60.4	60.8	61.5
MidDay	60.4	60.8	58.7	58.3	60.1	60.4	60.4	60.4	59.3	58.1	57.6	58.8	58.8
LastHalfHo..	60.1	60.8	59.0	58.7	59.0	60.8	60.4	51.4	59.3	58.1	57.6	59.0	59.0

Quotesize (shares)

FirstHalfHo..	156,753	157,282	170,264	205,336	202,658	146,123	160,913	162,686	190,460	187,498	201,086	203,810	251,426
MidDay	536,008	510,989	542,854	699,283	749,767	485,941	528,048	602,762	686,060	674,355	709,700	770,373	786,167
LastHalfHo..	472,021	490,710	518,167	619,275	626,196	465,624	501,806	371,650	597,307	602,884	611,971	624,177	686,745

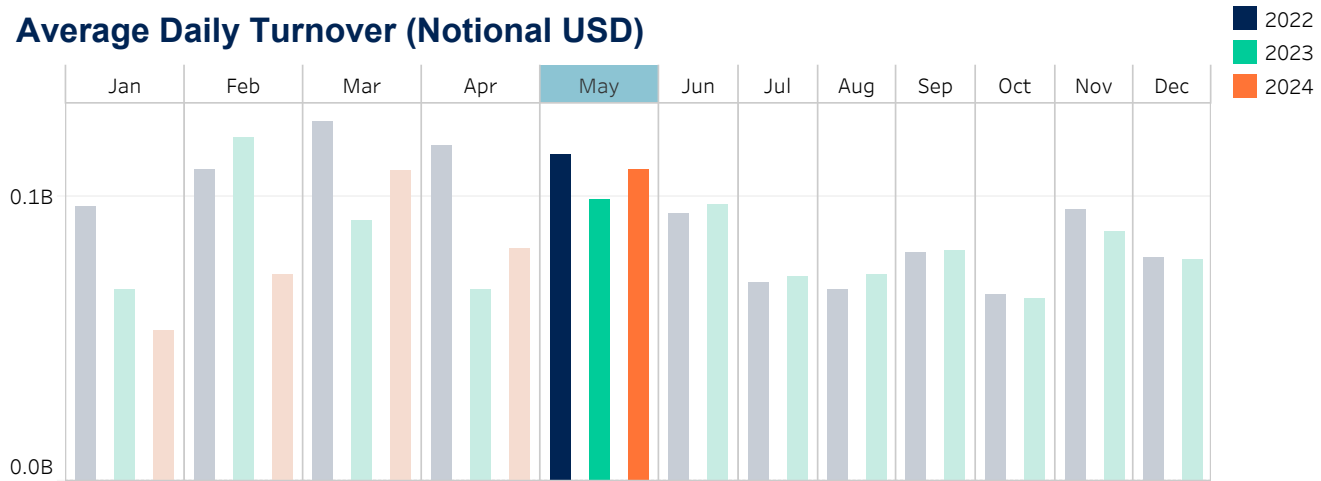
Median used for all metrics

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

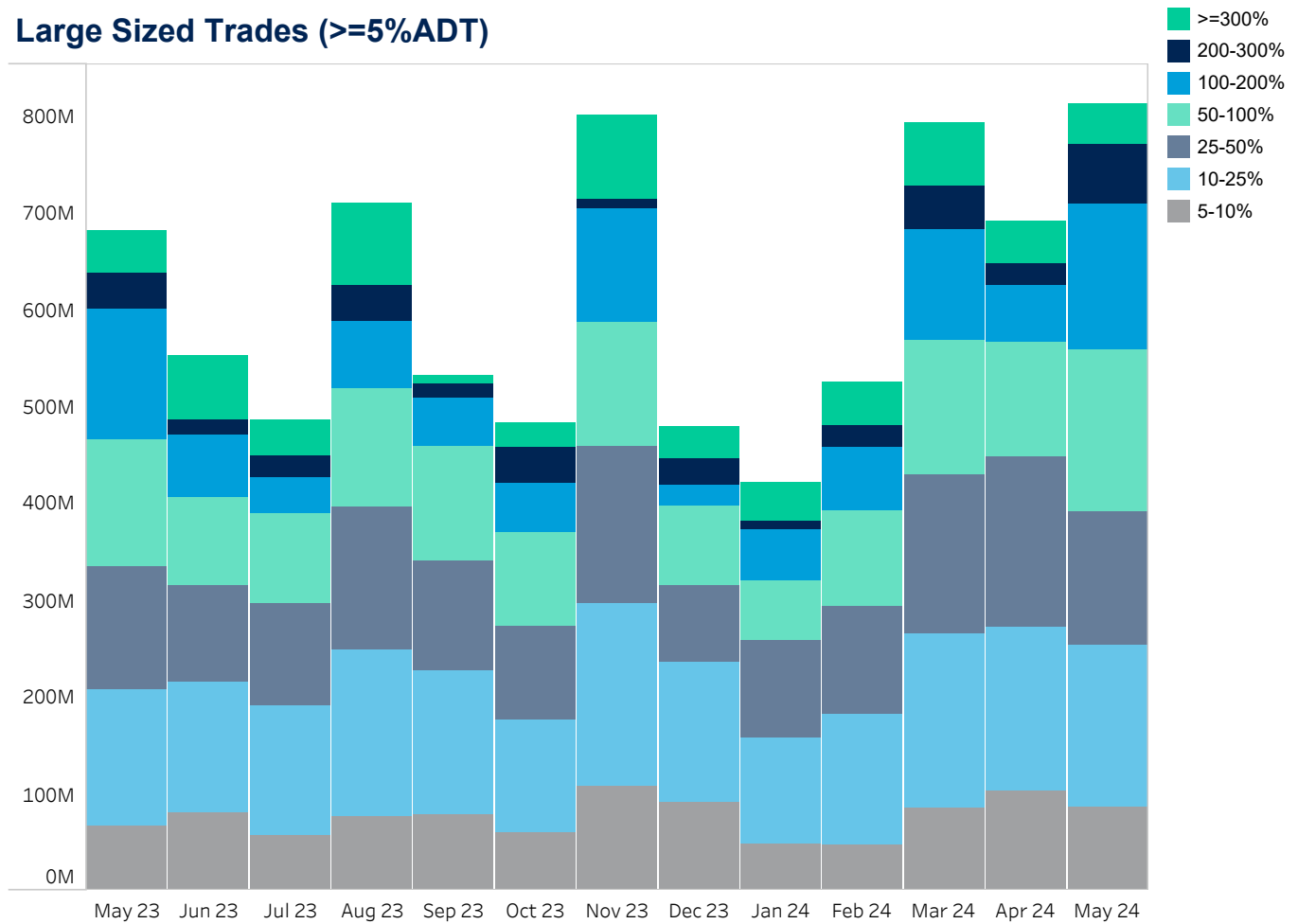
Source data: Virtu Financial

New Zealand

Average Daily Turnover (Notional USD)



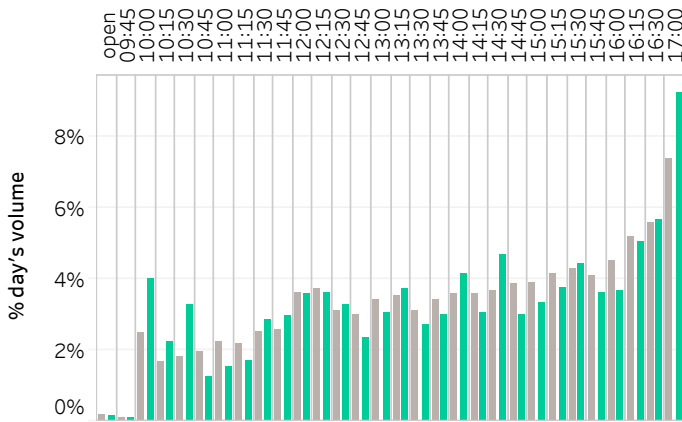
Large Sized Trades (>=5%ADT)



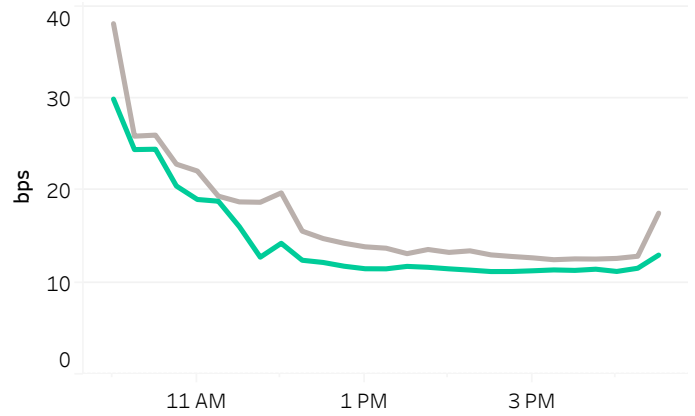
Source data: Virtu Financial

New Zealand

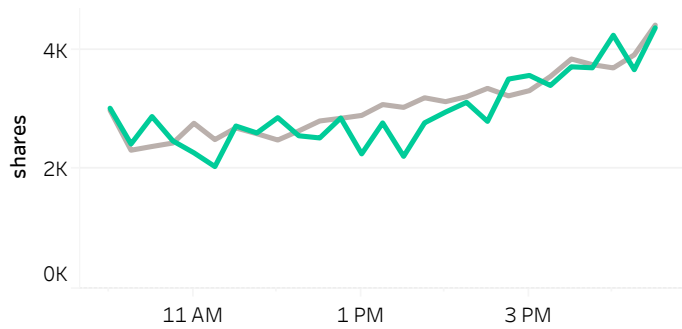
Volume Curve



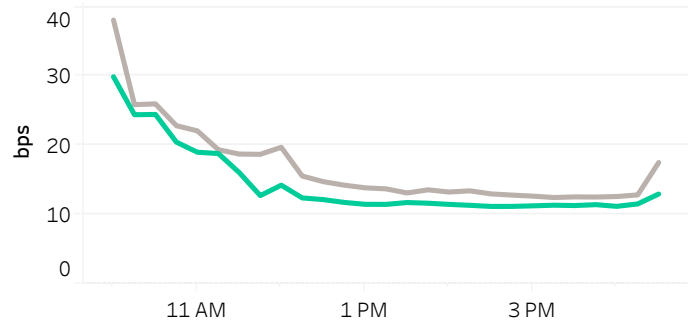
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



■ Rolling 12 Months Avg ■ May 2024

Spread Bps

	2023									2024				
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
FirstHalfHo..	33.5	23.1	27.3	26.0	30.3	28.2	28.9	35.4	37.0	35.1	31.2	34.3	26.1	
MidDay	13.7	13.3	13.5	14.5	12.4	14.7	14.3	16.7	17.1	19.6	12.7	12.5	11.6	
LastHalfHo..	17.4	17.7	17.9	18.0	16.3	19.7	18.1	18.6	22.2	22.5	17.1	15.6	13.0	

One Minute Volatility Bps

FirstHalfHo..	18.6	15.9	18.4	19.0	20.9	23.1	19.9	19.4	29.1	28.3	23.8	26.1	24.6
MidDay	13.3	13.3	12.8	13.7	12.5	15.0	14.6	16.4	17.2	19.2	12.3	12.1	11.7
LastHalfHo..	18.2	18.5	18.3	18.4	19.4	20.8	19.6	19.3	22.5	23.4	20.4	17.3	15.6

Quotesize (shares)

FirstHalfHo..	2,496	2,658	2,980	2,981	2,681	3,043	2,397	2,093	2,584	3,199	2,413	2,650	2,904
LastHalfHo..	4,691	5,091	4,326	4,567	3,988	4,171	4,335	4,150	4,284	4,516	4,518	3,911	4,530
MidDay	3,512	3,372	3,016	3,363	3,098	3,456	2,624	2,939	2,784	3,414	2,746	2,757	2,885

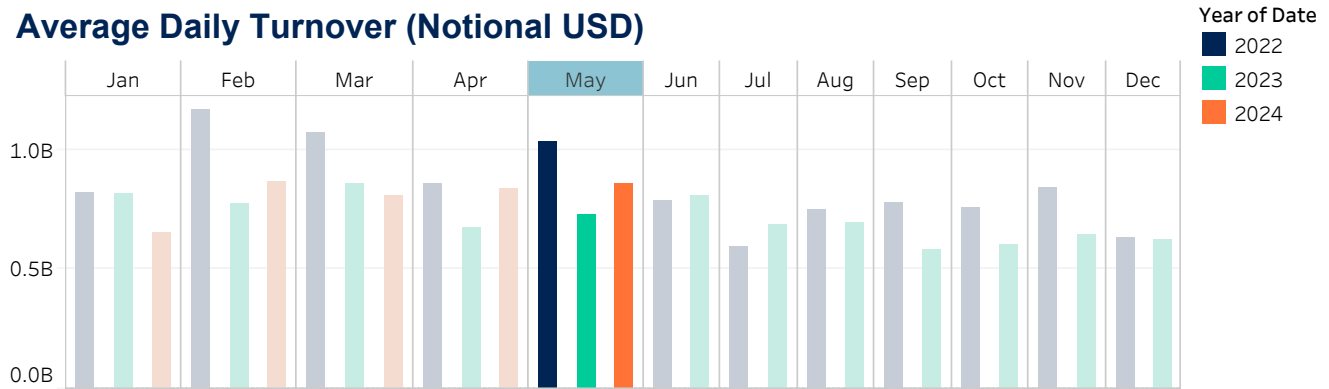
Median used for all metrics

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

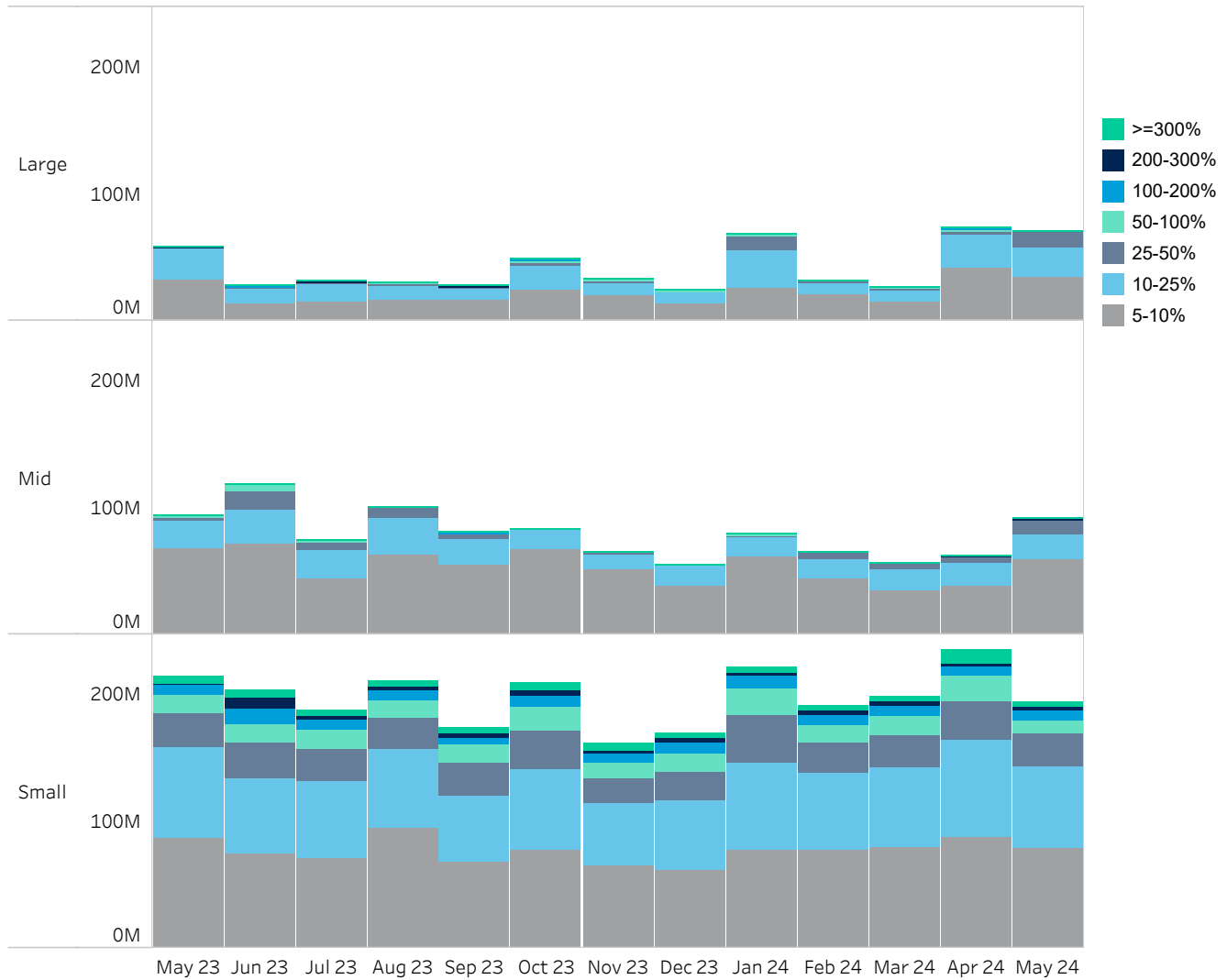
Source data: Virtu Financial

Singapore

Average Daily Turnover (Notional USD)



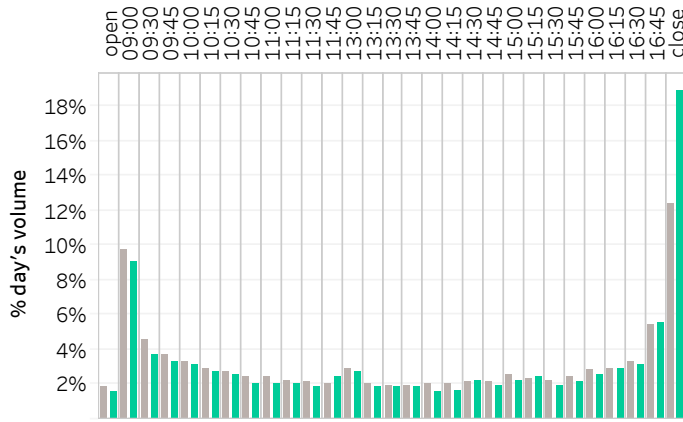
Large Sized Trades (>=5%ADT)



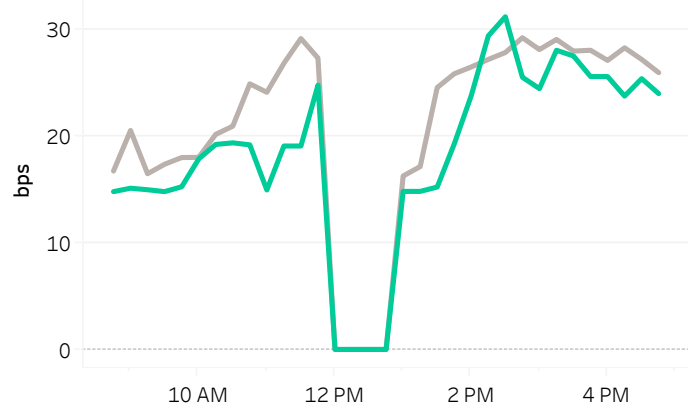
Source data: Virtu Financial

Singapore

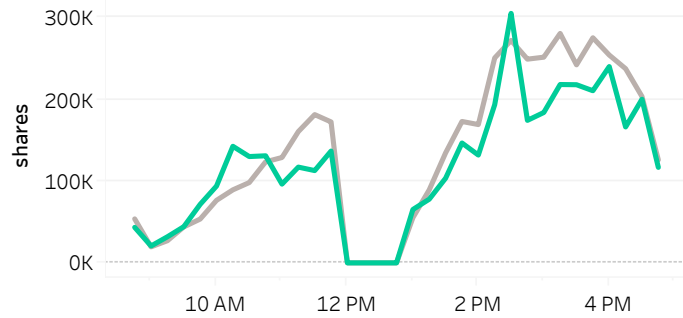
Volume Curve



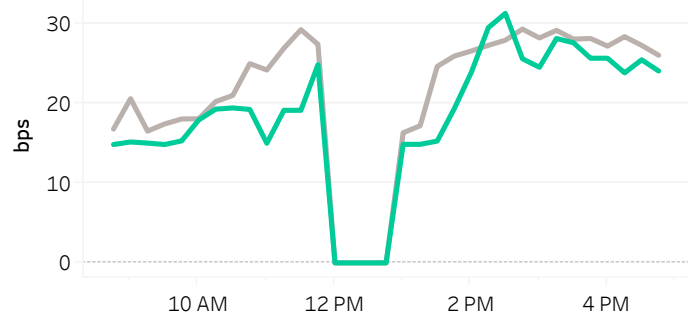
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



Rolling 12 Months Avg May 2024

Spread Bps

	2023						2024						
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
FirstHalfHo..	16.4	16.6	14.6	19.1	16.2	15.8	16.8	15.1	15.0	15.0	18.7	15.6	14.5
MidDay	27.0	24.5	17.5	27.1	26.7	28.5	26.5	28.9	26.8	18.1	30.0	36.7	19.2
LastHalfHo..	26.3	25.8	26.4	26.3	26.9	29.5	27.1	28.0	29.7	26.4	29.4	28.6	24.4

One Minute Volatility Bps

FirstHalfHo..	35.7	41.7	41.7	51.4	31.3	50.6	52.8	40.9	41.6	42.5	39.9	52.1	37.7
MidDay	27.5	26.9	26.3	27.6	27.0	31.3	27.3	29.1	28.8	26.3	34.2	36.9	24.3
LastHalfHo..	26.8	27.4	27.1	28.0	27.4	32.6	27.9	29.4	32.6	30.4	30.1	34.1	29.7

Quotesize (shares)

FirstHalfHo..	57,725	86,605	39,923	30,361	36,050	50,518	72,786	53,345	55,164	68,837	35,573	61,123	43,399
MidDay	231,700	112,054	126,638	232,427	176,852	239,708	89,777	193,459	181,018	116,322	187,792	374,365	110,102
LastHalfHo..	170,897	139,765	143,803	181,844	179,377	226,408	119,166	139,335	199,052	164,279	161,581	161,143	143,389

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

Glossary

Volume curve - average of value traded during the month, per 15-minute time bin.

Intraday volatility - Median of difference between the high and low price within a one minute time bin, divided by that bin's VWAP

Spread - median of bid-ask spread of the index.

Quotesize - Median bid and ask size of all stocks in the index.

Average daily turnover - average daily value traded in the market.

Indices used:

Australia: ASX 200

Japan: TOPIX

China: CSI 300

Hong Kong: Hang Seng Index

Taiwan: TWSE

India: NIFTY 50

Korea: MSCI Korea 25/50 Index

New Zealand: MSCI New Zealand IMI 25/50 Index

Singapore: MSCI Singapore Index

Thailand: MSCI Thailand IMI 25/50 Index

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