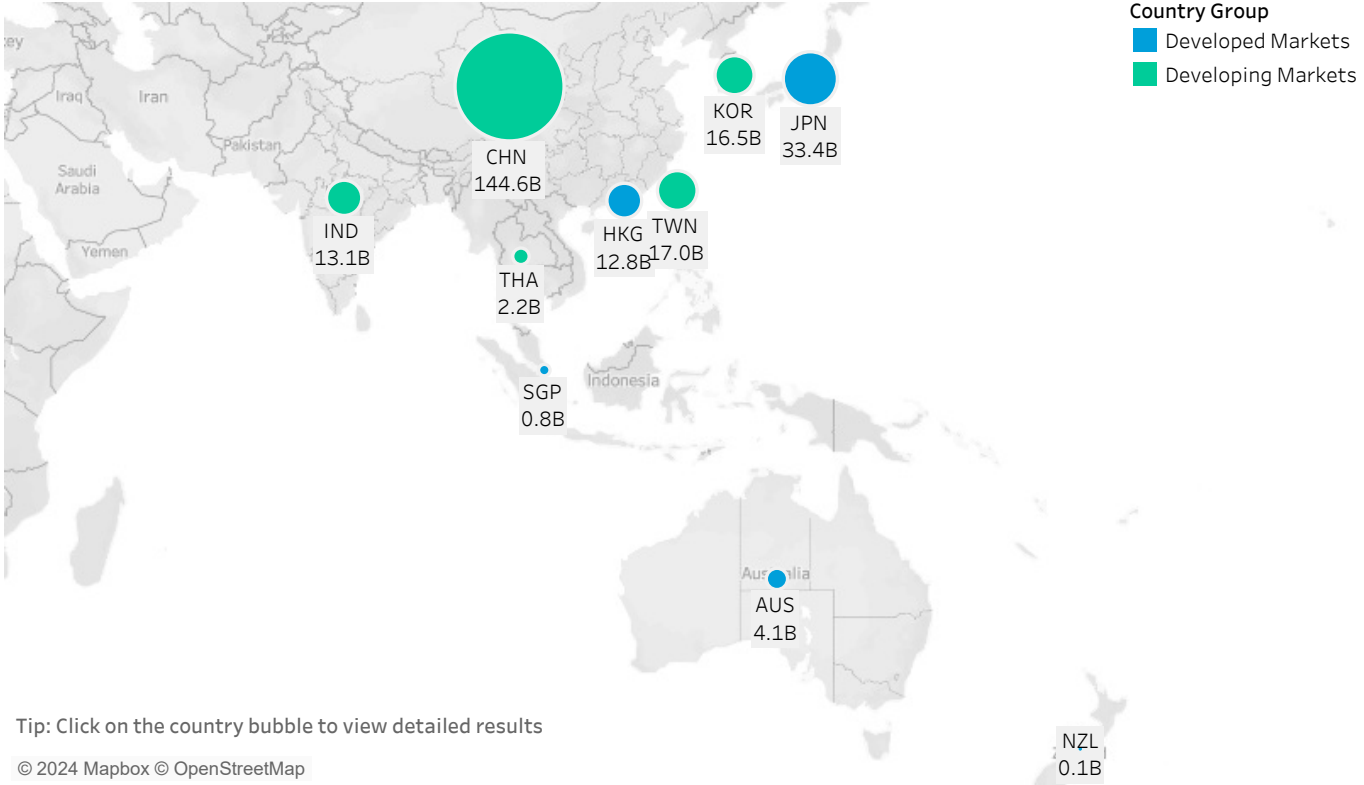


April 2024 APAC Market Structure Monthly

Average Daily Turnover (Notional USD)



Country Breakdowns

Hong Kong

China

Japan

Australia

South Korea

Taiwan

India

Thailand

New Zealand

Singapore

April 2024

APAC Market Structure Monthly

MICROSTRUCTURE OBSERVATIONS

- Trading activity in Japan declined in April 2024 after record turnover in Q1 2024, with month-over-month (MoM) average daily turnover (ADT) decreasing -14%
- On the contrary, ADT in Hong Kong was 3% higher in April 2024, to US\$12.8B, relative to the prior month. April's intraday volume curve was more left skewed relative to prior months, with more intraday volume executed in the morning session. Specifically, 52% of full day volume was completed before noon, up 5% compared to the 2024 YTD average.
- Block turnover in India fell back to more average levels in April 2024 after a notable increase the prior month.

APAC MARKET STRUCTURE NEWS¹

Australia Stock Exchange Published Whitepaper on T+1 Settlement

On 23 April 2024, Australia Stock Exchange (ASX) published an industry whitepaper on potential T+1 Settlement. According to ASX, a T+1 Working Group was formed in December 2023 to provide analysis and insights to the ASX Business Committee on settlement cycle compression. The paper explores strategic considerations for a potential transition to T+1. ASX encourages stakeholders to provide written feedback by 18 June 2024. ASX aims to publish a summary of feedback in August 2024.

<https://www.asx.com.au/content/dam/asx/markets/clearing-and-settlement-services/t1-whitepaper-042024.pdf>

HKEX Reaches Agreement with SSE and SZSE to Expand Scope of Eligibility of ETFs Under Stock Connect

On 19 April 2024, HKEX announced that it had reached an agreement with SSE and SZSE to expand the scope of eligible ETFs under Stock Connect. According to HKEX, the eligibility criteria for ETFs for both Northbound and Southbound trading, including the assets under management (AUM) requirement and the index weighting requirements, will be relaxed to support the continued development of the Stock Connect program.

https://www.hkex.com.hk/News/News-Release/2024/2404193news?sc_lang=en

<https://www.hkex.com.hk/-/media/HKEX-Market/Services/Circulars-and-Notices/Participant-and-Members-Circulars/SEHK/2024/CT04224E.pdf>

¹ The summaries set forth herein are qualified in their entirety by the underlying rules, filings and referenced materials.

Hong Kong Exchange and Clearing Limited, Shanghai Stock Exchange and Shenzhen Stock Exchange to Adjust Stock Connect Market Data Dissemination

On 12 April 2024, Hong Kong Exchange and Clearing Limited (HKEX), the Shanghai Stock Exchange (SSE), and Shenzhen Stock Exchange (SZSE) issued circulars on the adjustments to market data dissemination in relation to Stock Connect northbound and southbound trading, expecting phased testing and implementation following the announcement.

The adjustments focus on the real-time publishing of Stock Connect quota/turnover and balances. For example, for both Southbound and Northbound Stock Connect, real-time available daily quota balance will only 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, but historical daily and monthly total market turnover, number of trades, ETF turnover, and turnover of the top 10 most actively traded stocks will be publicly available. The adjustments also cover short selling balance data and CCASS Shareholding search.

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)

HKEX Lists Asia's First Spot Virtual Asset Exchange Traded Fund

On 30 April 2024, Hong Kong Exchanges and Clearing Limited (HKEX) announced that it welcomes the listing of Asia's first Spot Virtual Asset (VA) ETFs. According to HKEX, investor interest in VA ETFs has grown, since VA Futures ETFs were first launched in late 2022. In the first quarter of 2024, the three VA futures ETFs attracted HKD 529 million (\$67.8m) in net inflows during the first quarter.

https://www.hkex.com.hk/News/News-Release/2024/240430news?sc_lang=en

The Stock Exchange of Thailand Solicited Feedback on Market Consultation Regarding Enhancements of Regulatory Measures

From 27 Mar to 21 April 2024, The Stock Exchange of Thailand (SET) solicited feedback on its proposed enhancements of regulatory measures. The scope of the rules in this consultation includes short selling stock criteria and uptick pricing, supervision of high frequency trading activities, minimum order resting times, and regulatory disclosure.

https://media.set.or.th/set/Documents/2024/Mar/No67_ConsultativePaper_Regulatory_Measures_EN.pdf

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

APAC +852.2846.3592 | **CAN** +1.416.874.0800 | **EMEA** +44.20.7670.4066 | **US** +1.646.682.6199

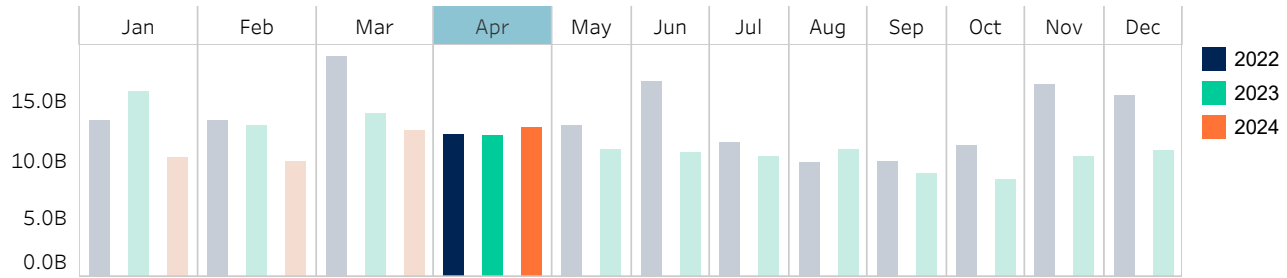
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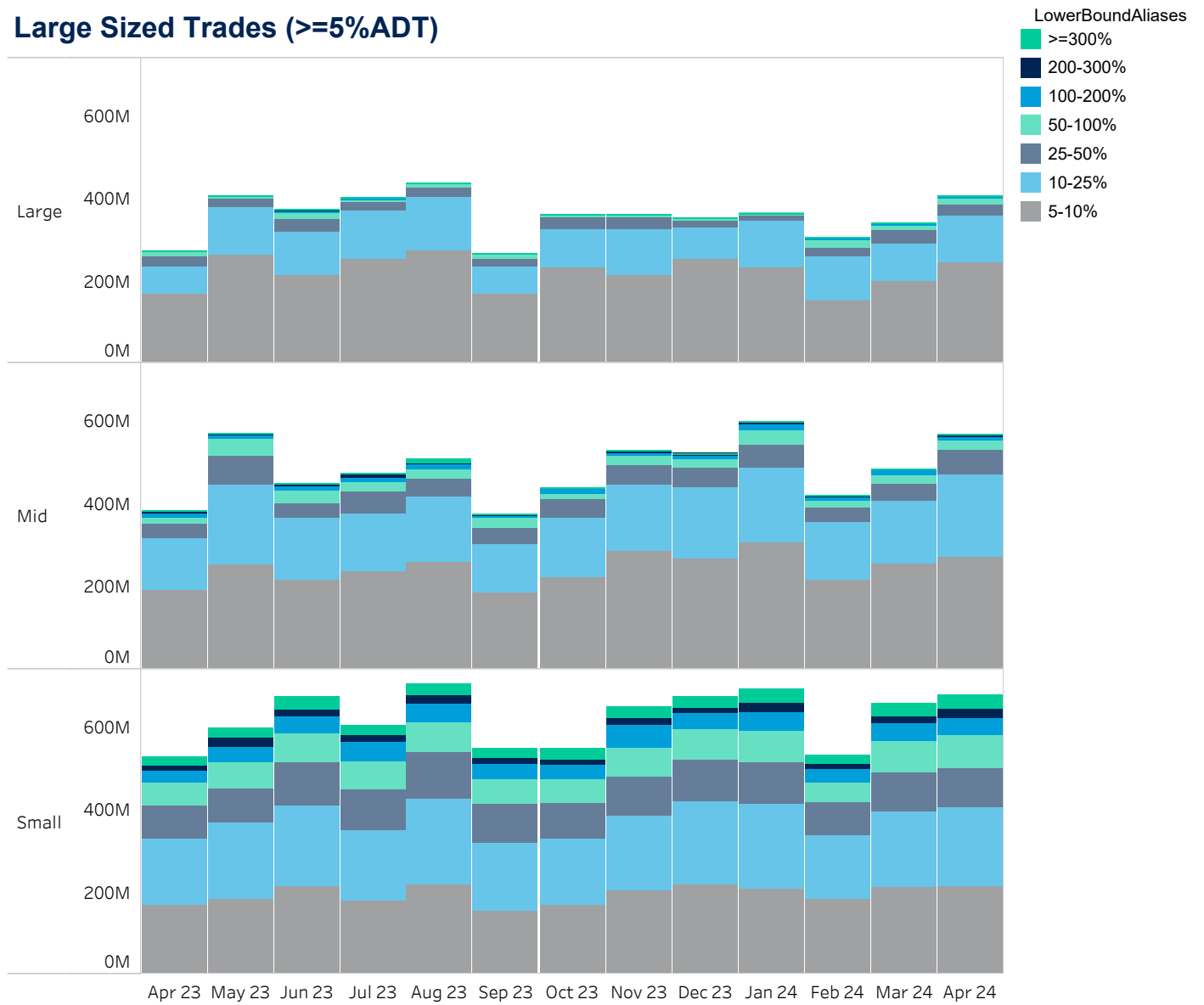
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Hong Kong

Average Daily Turnover (Notional USD)



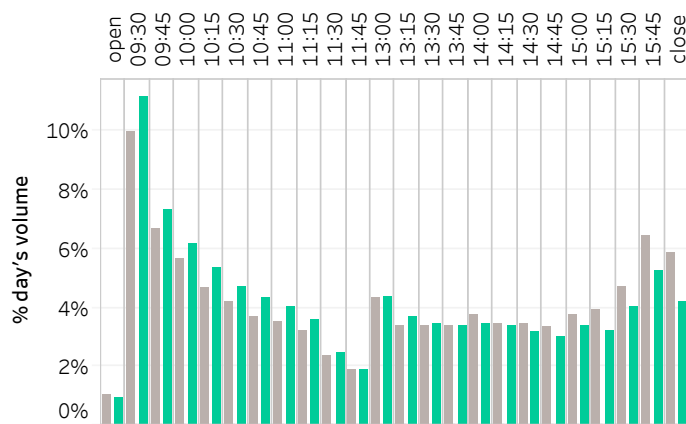
Large Sized Trades (>=5%ADT)



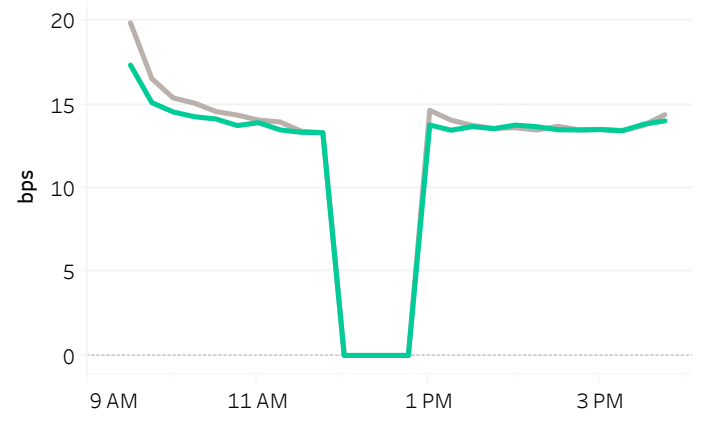
Source data: Virtu Financial

Hong Kong

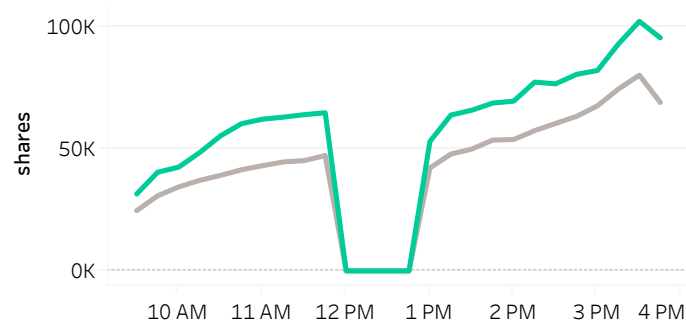
Volume Curve



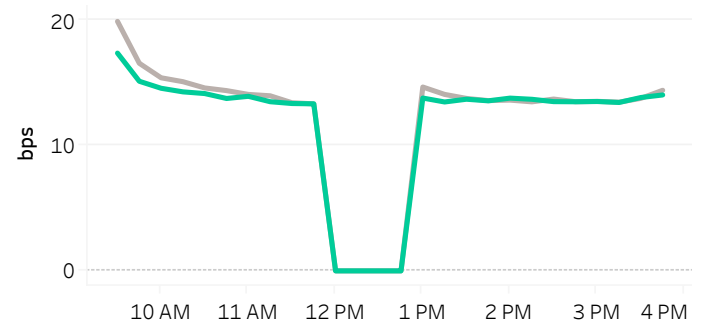
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



Rolling 12 Months Avg (Brown) April 2024 (Teal)

Spread Bps

	2023						2024						
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
FirstHalfHo..	19.5	19.5	19.6	18.3	18.7	18.1	18.4	17.1	17.0	16.7	16.8	16.2	16.3
MidDay	14.5	14.0	14.6	13.5	14.0	14.4	14.7	13.4	14.2	14.4	13.6	13.5	13.7
LastHalfHo..	14.1	14.1	14.9	13.8	13.9	14.8	15.0	14.3	15.2	15.1	14.3	13.8	13.9

One Minute Volatility Bps

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

Quotesize (shares)

FirstHalfHo..	31,145	29,974	26,818	25,478	27,693	28,391	27,601	23,593	24,188	25,581	23,164	28,948	34,226
MidDay	50,780	47,975	41,143	42,053	45,912	52,298	46,953	46,472	52,781	52,997	41,722	57,521	64,130
LastHalfHo..	76,329	74,417	64,333	69,285	74,613	78,499	77,442	72,387	70,619	79,360	72,944	95,535	97,872

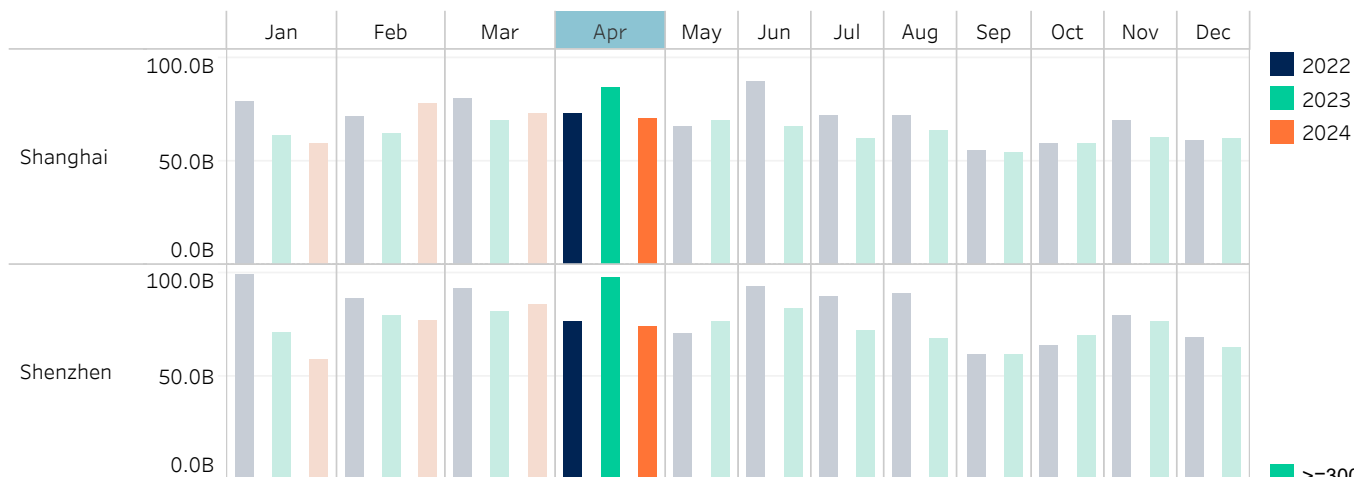
Median used for all metrics

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

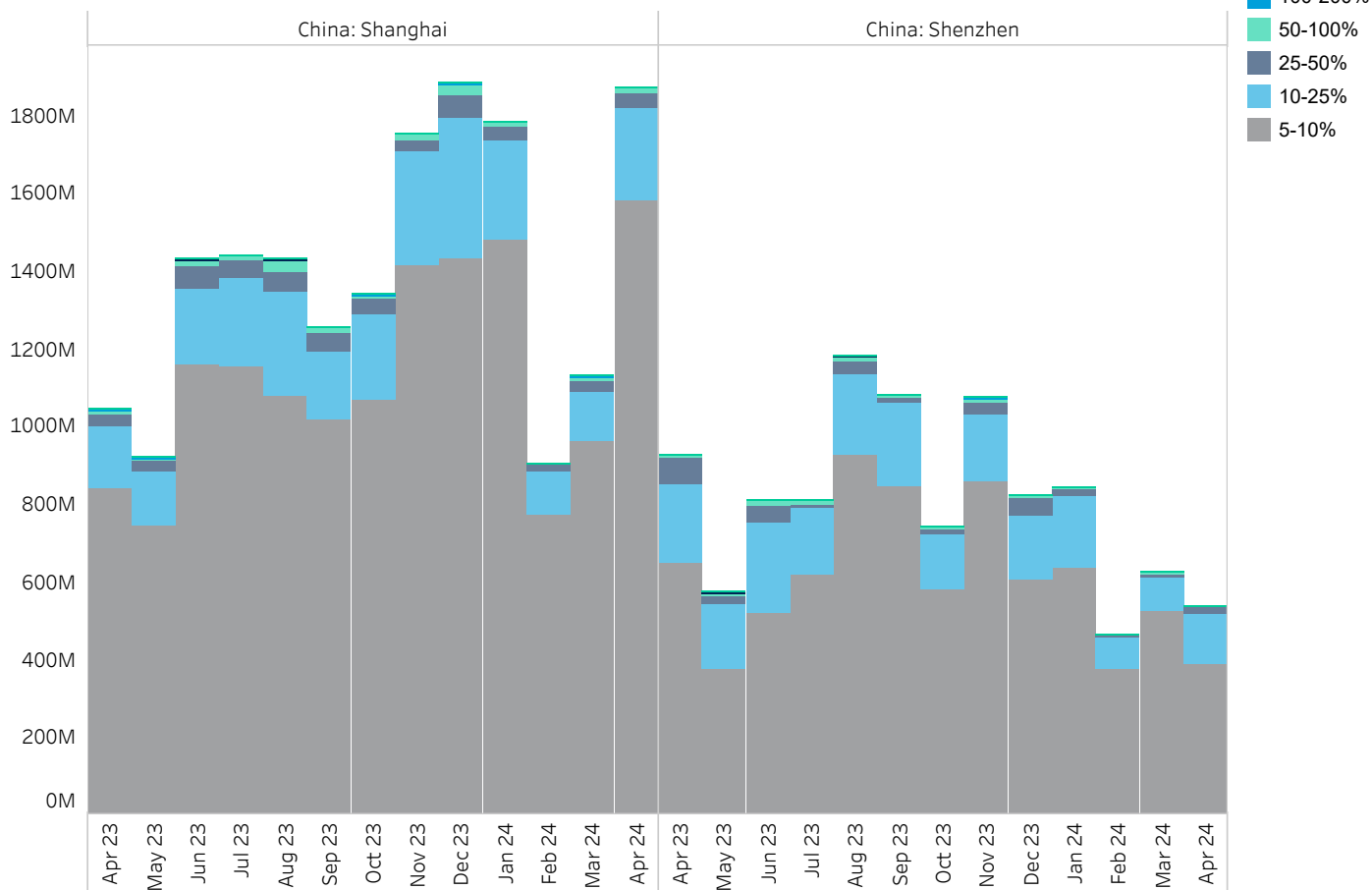
Source data: Virtu Financial

China

Average Daily Turnover (Notional USD)



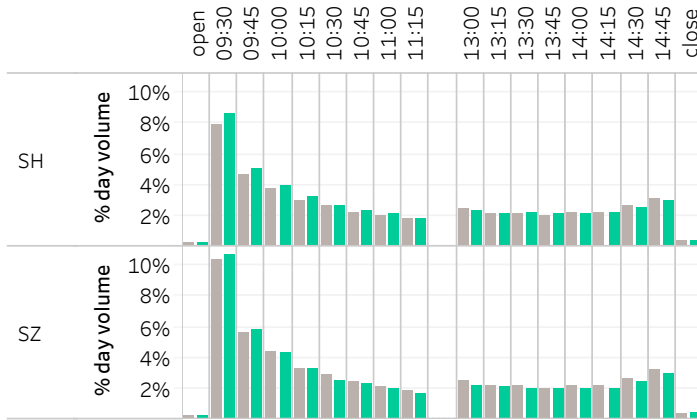
Large Sized Trades (>=5%ADT)



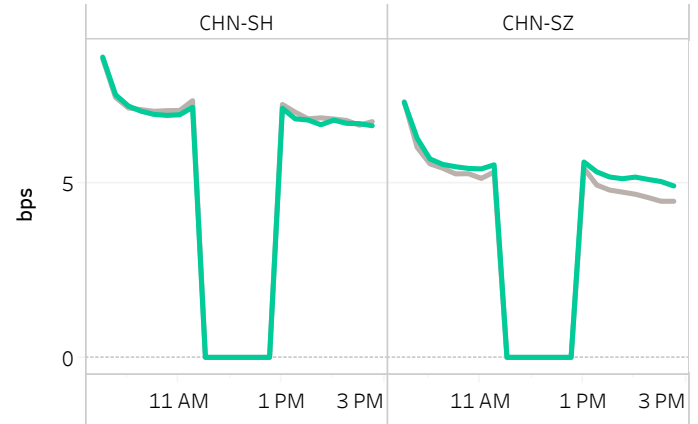
Source data: Virtu Financial

China

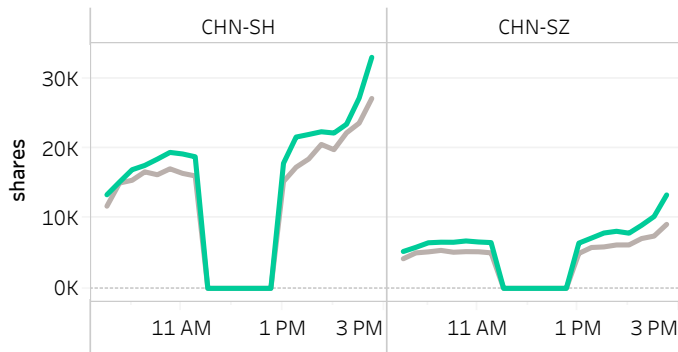
Volume Curve



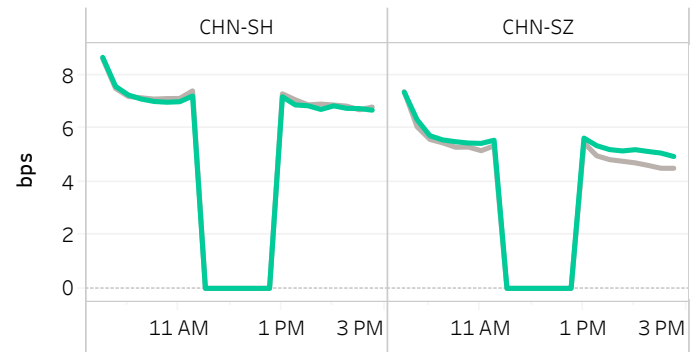
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



Rolling 12 Months Avg April 2024

Spread Bps

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

One Minute Volatility Bps

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

Quotesize (shares)

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

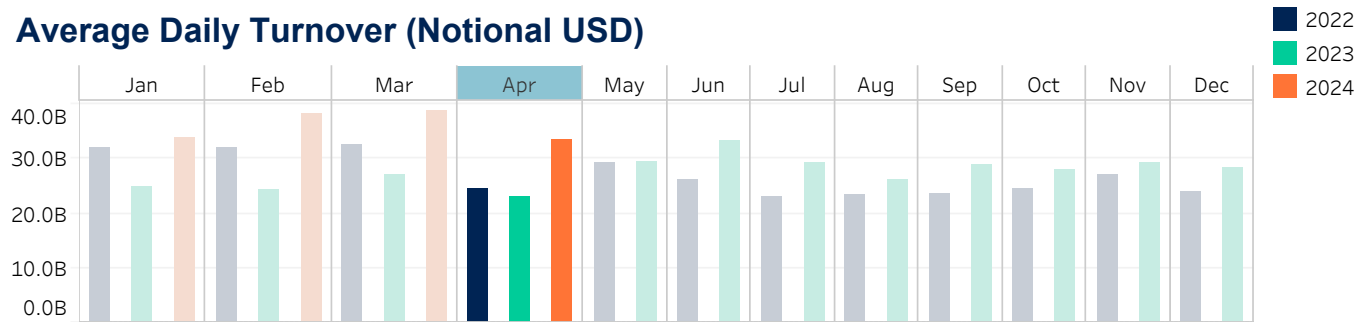
Median used for all metrics

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

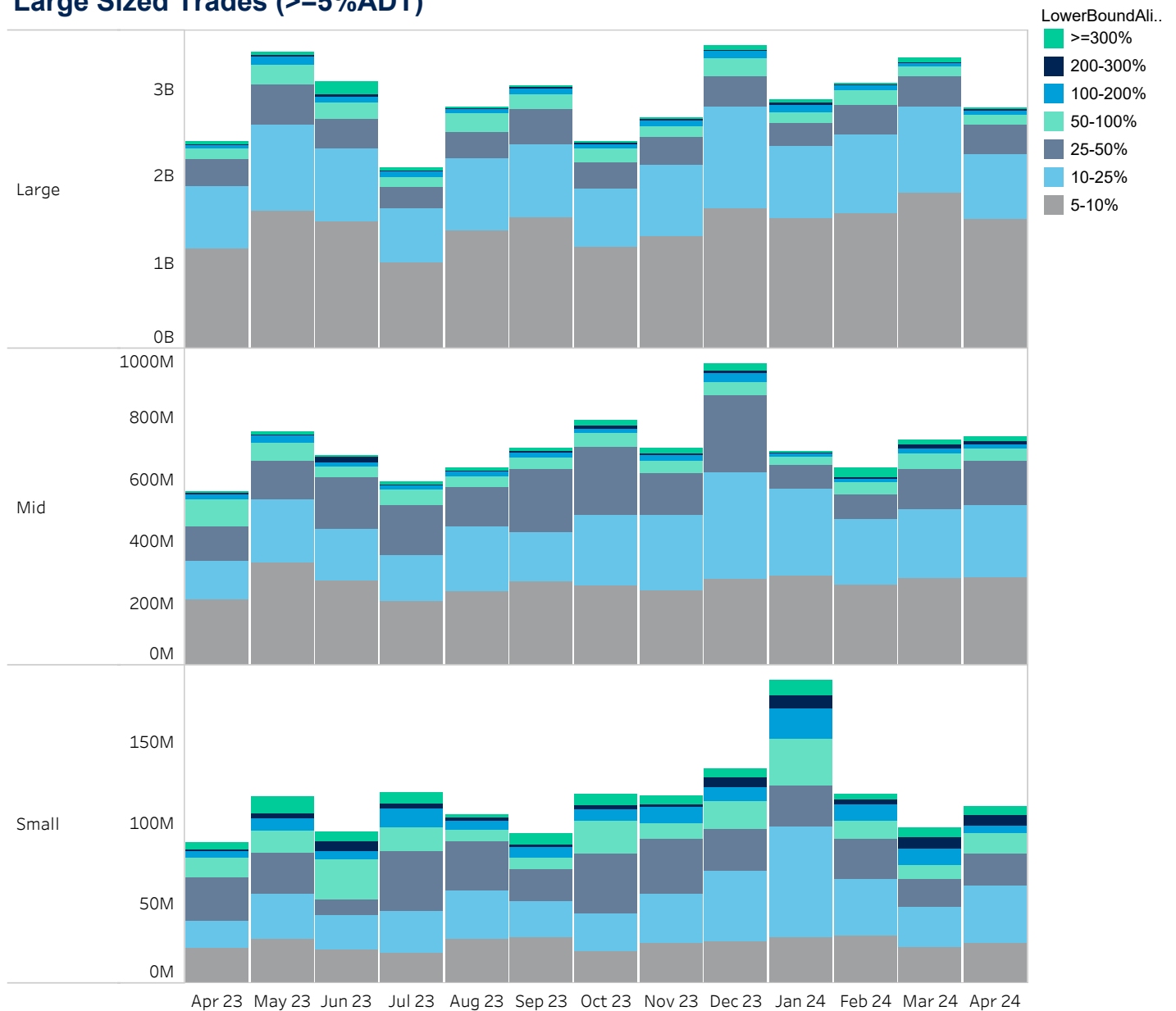
Source data: Virtu Financial

Japan

Average Daily Turnover (Notional USD)



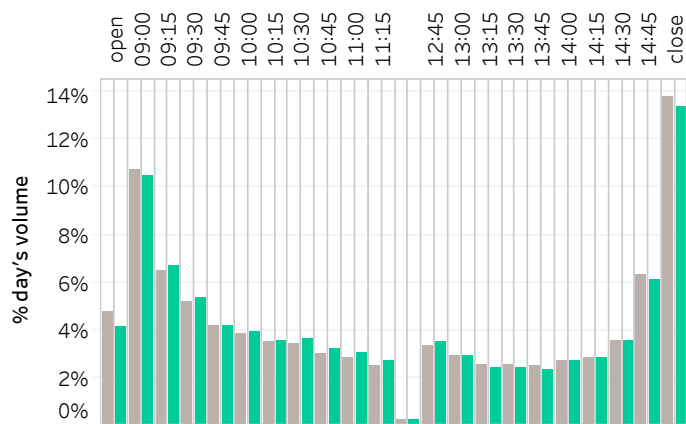
Large Sized Trades (>=5%ADT)



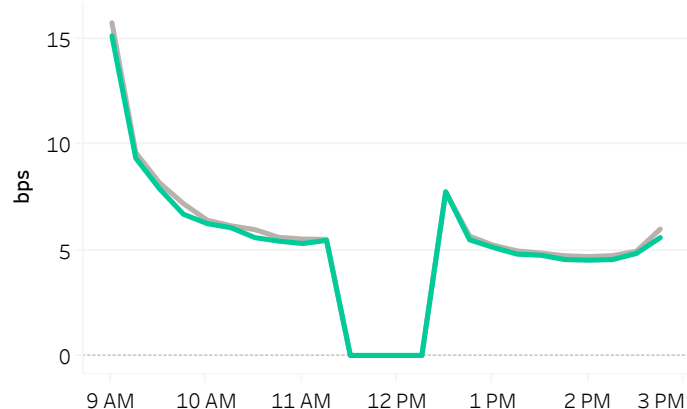
Source data: Virtu Financial

Japan

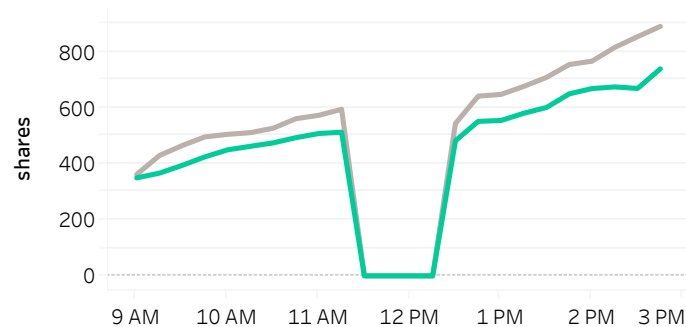
Volume Curve



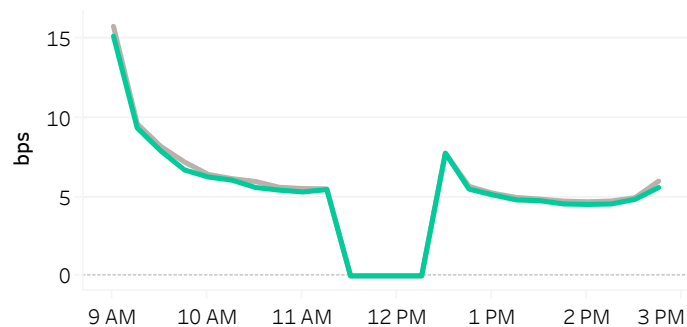
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



Rolling 12 Months Avg April 2024

Spread Bps

	2023						2024						
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
FirstHalfHo..	15.3	15.5	12.4	11.7	12.2	11.4	13.0	13.5	11.7	11.6	13.1	12.8	12.3
MidDay	8.5	8.9	5.7	5.2	5.4	5.2	5.8	6.0	5.3	5.3	6.0	5.6	5.7
LastHalfHo..	9.2	9.2	5.4	5.0	4.9	5.1	5.7	5.5	5.1	4.9	5.6	5.5	5.2

One Minute Volatility Bps

FirstHalfHo..	15.4	16.4	14.8	14.2	14.8	14.1	16.0	16.8	14.7	14.9	17.1	16.7	16.6
MidDay	7.7	8.5	6.7	5.9	6.1	6.0	7.1	7.3	6.2	6.4	7.3	7.1	7.5
LastHalfHo..	8.9	9.3	7.1	6.6	6.4	6.8	7.9	7.5	7.0	6.8	7.6	7.7	7.7

Quotesize (shares)

FirstHalfHo..	564	569	427	386	379	388	340	340	357	359	369	369	358
MidDay	951	968	582	569	575	580	494	526	551	555	549	534	499
LastHalfHo..	1,495	1,578	860	855	882	829	694	779	750	764	784	739	720

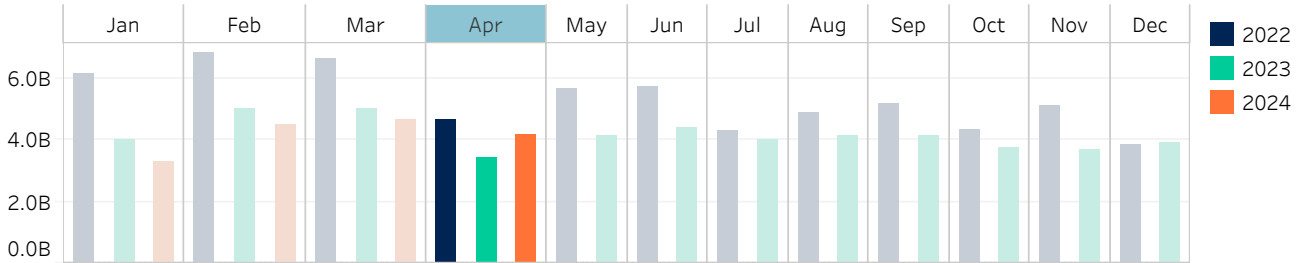
Median used for all metrics

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

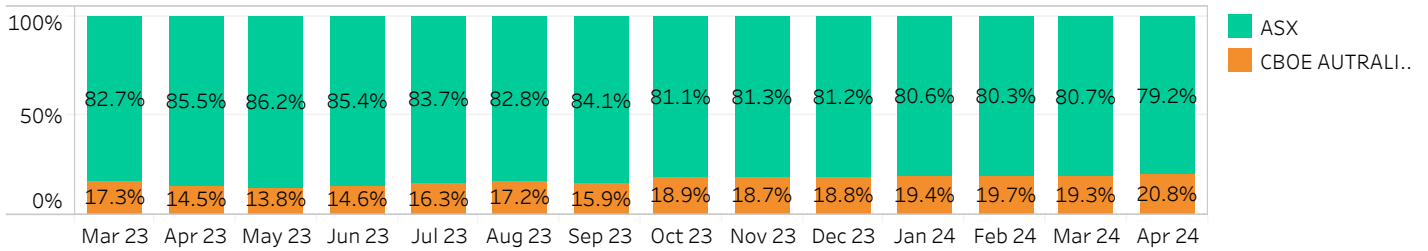
Source data: Virtu Financial

Australia

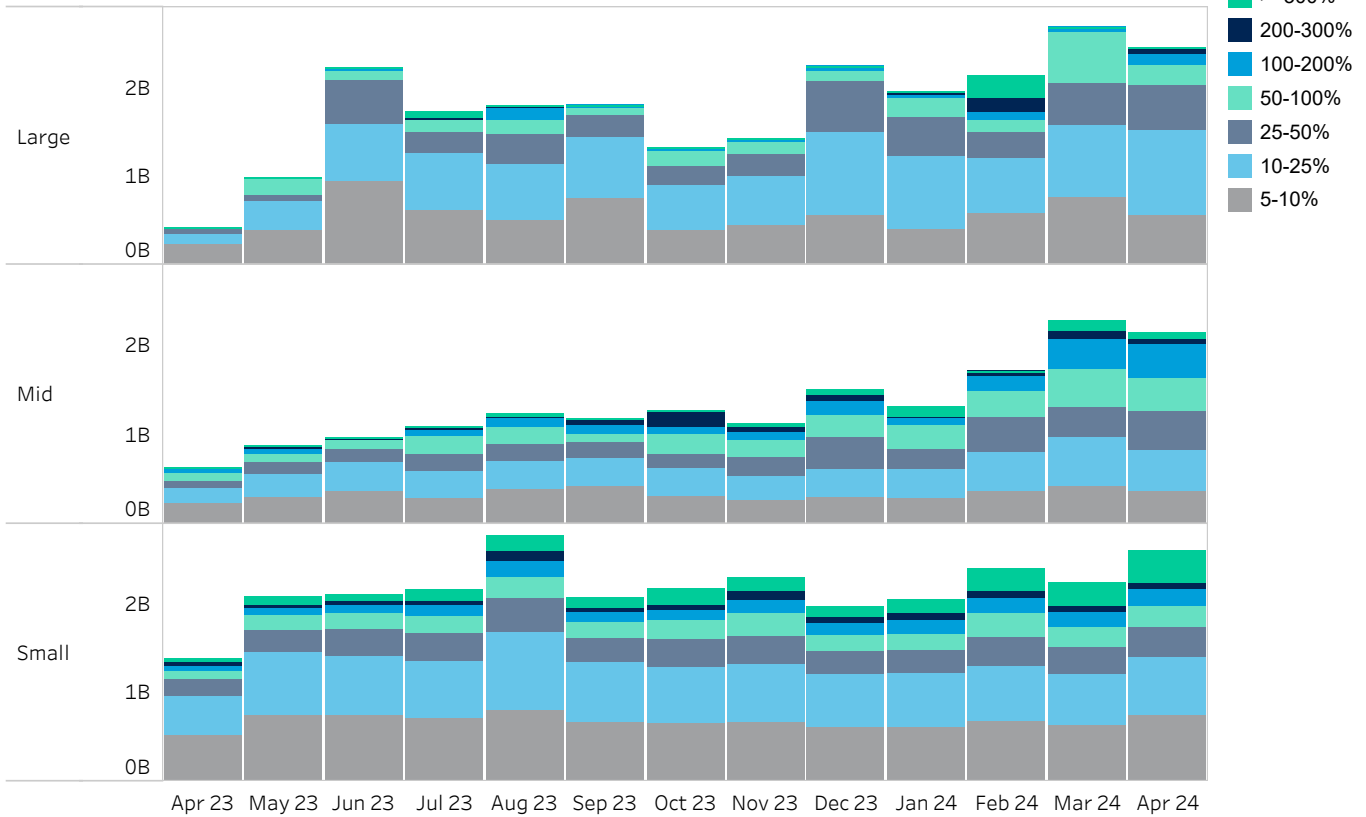
Average Daily Turnover (Notional USD)



Venue Market Share (Notional USD)



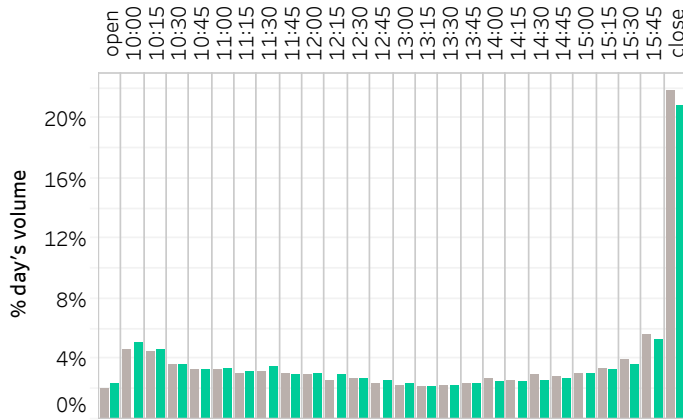
Large Sized Trades (>=5%ADT)



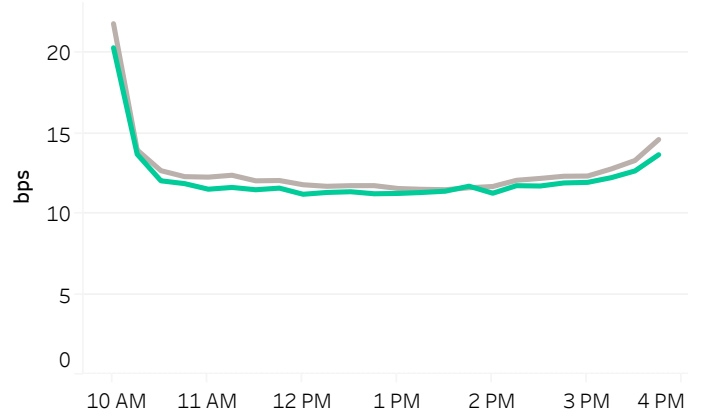
Source data: Virtu Financial

Australia

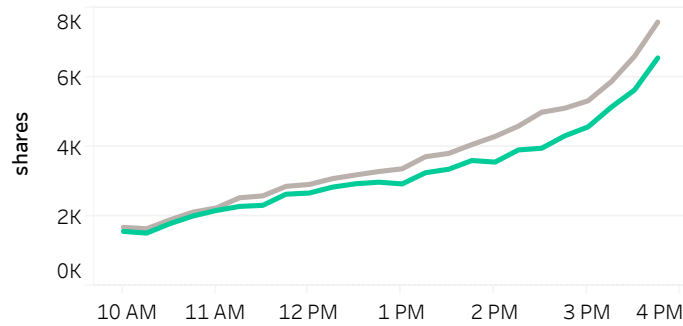
Volume Curve



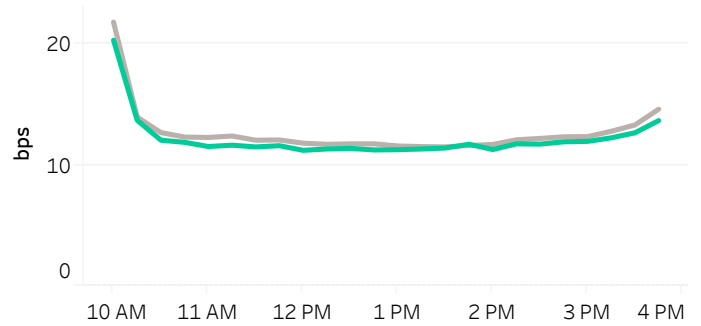
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



Rolling 12 Months Avg April 2024

Spread Bps

	2023						2024						
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
FirstHalfHo..	17.4	17.0	16.6	16.6	16.6	17.0	18.7	18.1	17.6	16.7	17.7	16.7	16.3
MidDay	12.1	11.6	11.8	11.3	11.1	12.3	13.1	13.1	12.6	12.0	12.5	11.9	11.7
LastHalfHo..	14.3	13.7	14.0	13.9	14.1	14.7	15.4	15.1	14.1	13.7	13.7	13.5	13.1

One Minute Volatility Bps

FirstHalfHo..	20.6	19.1	18.7	18.0	18.9	17.9	19.4	18.7	18.3	16.7	19.2	18.2	18.4
MidDay	9.5	9.2	9.8	9.5	9.7	9.6	10.6	10.8	10.1	9.5	10.5	10.0	9.6
LastHalfHo..	12.4	11.9	12.5	11.9	12.4	12.7	13.5	13.3	12.5	11.7	12.6	12.2	11.7

Quotesize (shares)

FirstHalfHo..	2,108	1,897	1,901	1,672	1,703	1,756	1,601	1,443	1,515	1,528	1,587	1,547	1,545
MidDay	3,968	3,313	3,860	3,520	3,310	3,720	3,289	3,147	3,258	3,388	3,303	3,261	2,984
LastHalfHo..	8,141	7,163	8,042	7,173	7,405	7,388	7,156	6,633	6,873	6,851	6,654	6,518	6,090

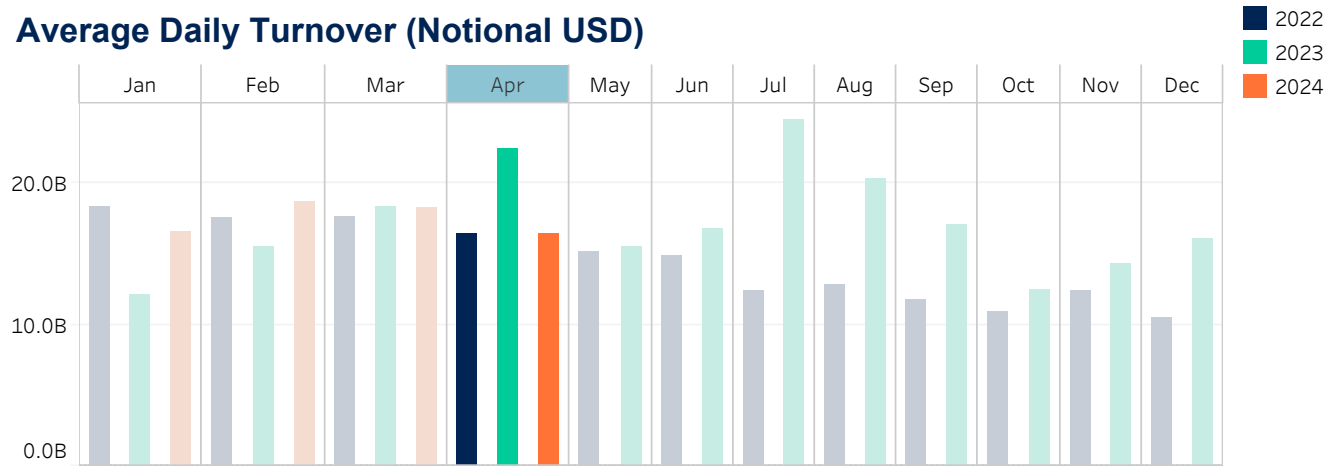
Median used for all metrics

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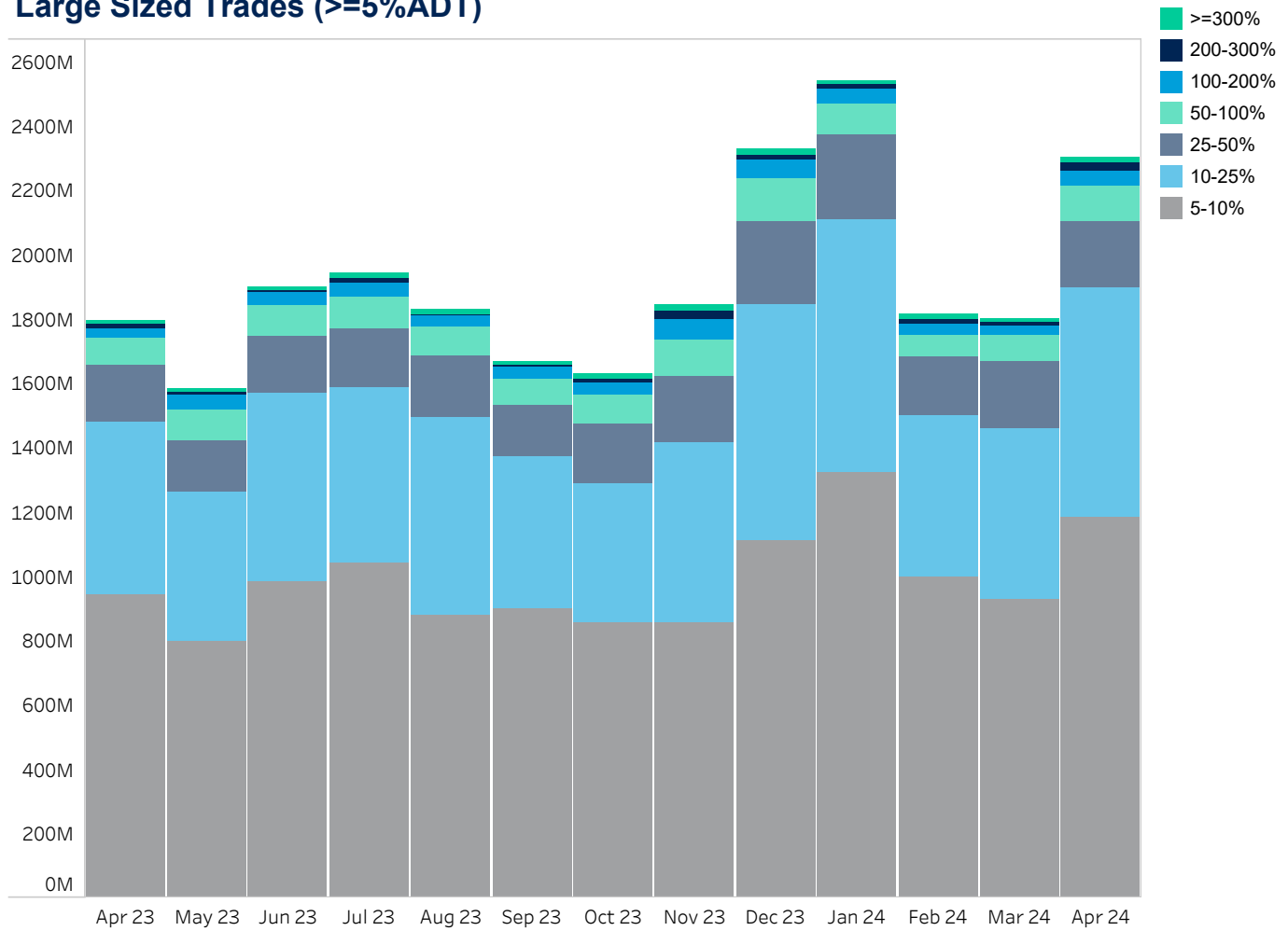
Source data: Virtu Financial

South Korea

Average Daily Turnover (Notional USD)



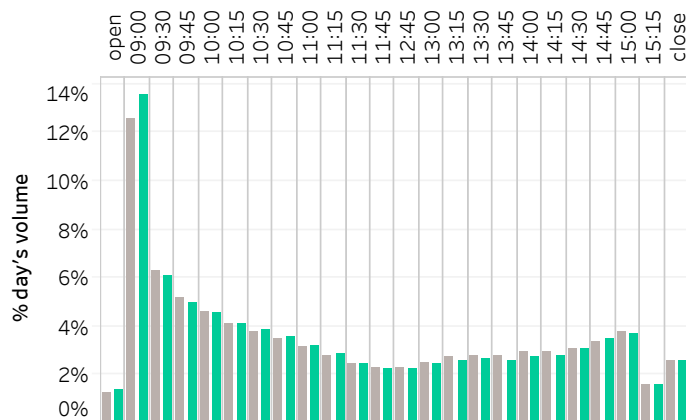
Large Sized Trades (>=5%ADT)



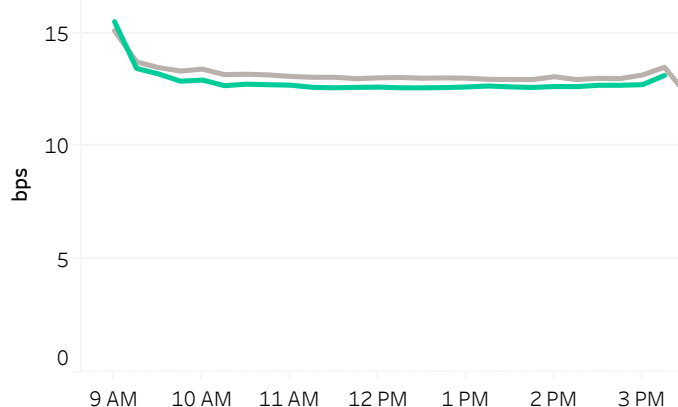
Source data: Virtu Financial

Korea

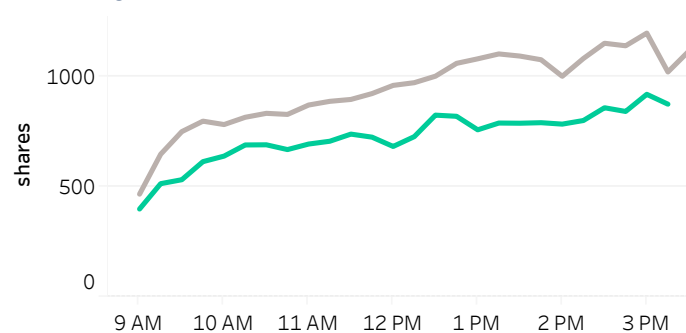
Volume Curve



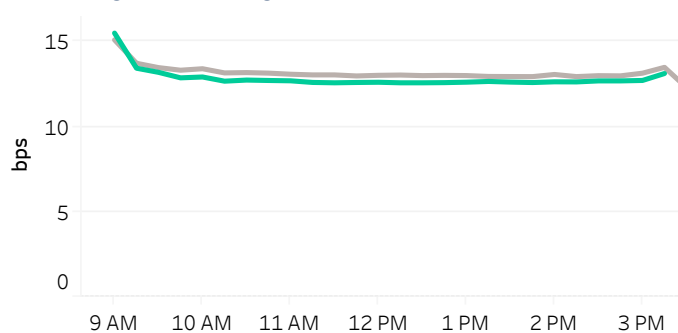
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



Rolling 12 Months Avg April 2024

Spread Bps

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

One Minute Volatility Bps

FirstHalfHo..	25.6	22.7	21.5	27.1	26.7	23.3	27.5	25.1	22.2	25.7	31.4	27.9	27.8
MidDay	14.8	14.2	14.0	14.9	14.3	14.0	14.6	15.1	14.5	15.7	16.4	15.7	15.6
LastHalfHo..	15.9	14.9	14.8	16.2	15.2	15.3	16.1	14.9	16.3	17.1	17.6	16.5	17.1

Quotesize (shares)

FirstHalfHo..	578.5	579.9	634.3	563.4	491.2	491.0	443.8	457.6	535.9	445.6	465.2	451.8	457.9
MidDay	1,014.3	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
LastHalfHo..	1,189.4	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

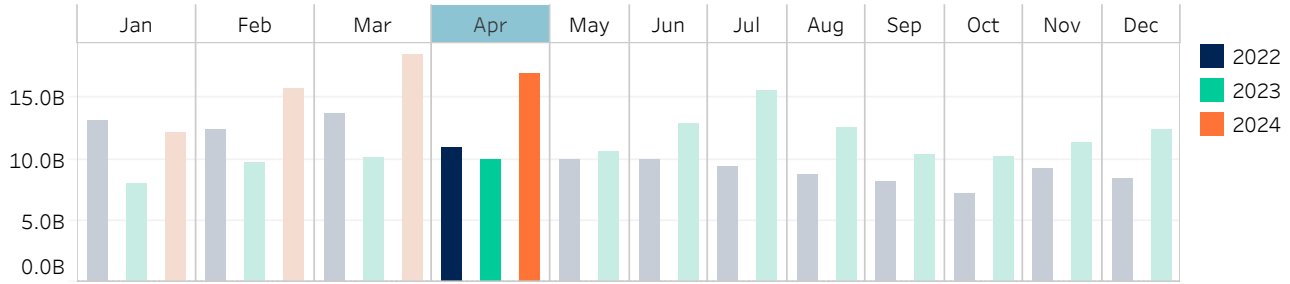
Median used for all metrics

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

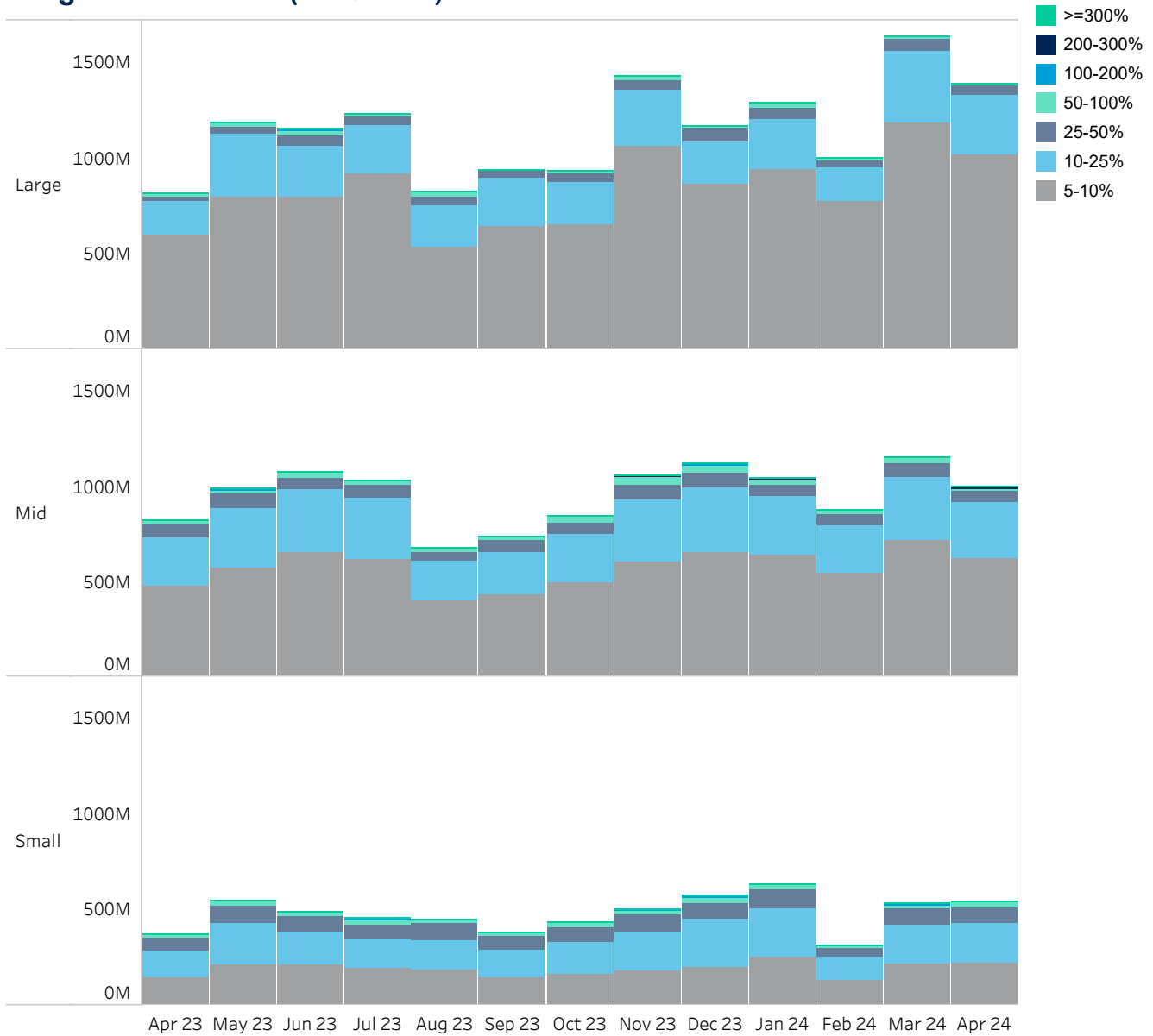
Source data: Virtu Financial

Taiwan

Average Daily Turnover (Notional USD)



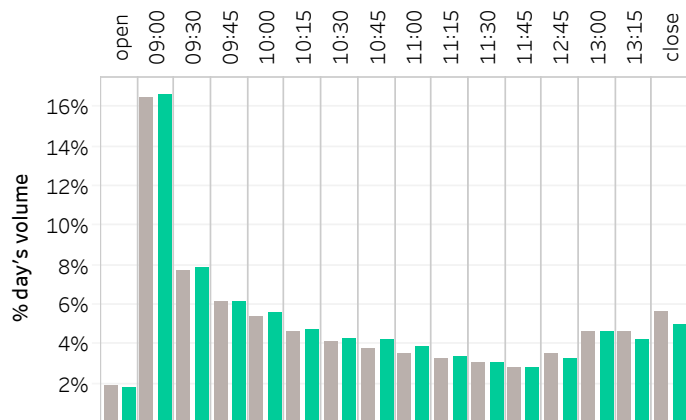
Large Sized Trades (>=5%ADT)



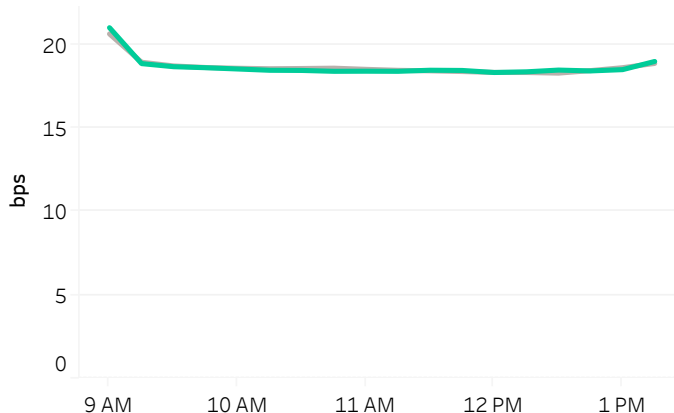
Source data: Virtu Financial

Taiwan

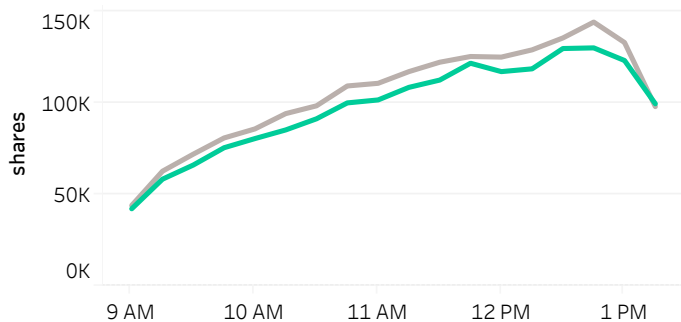
Volume Curve



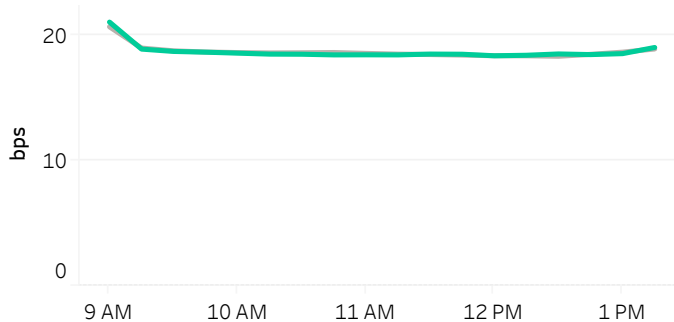
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



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

Spread Bps

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

One Minute Volatility Bps

FirstHalfHo..	30.3	31.3	31.2	34.5	37.1	32.6	33.3	29.9	30.6	32.8	31.3	32.7	32.9
MidDay	28.8	28.1	28.4	31.5	36.4	29.8	31.1	26.4	27.8	29.2	28.6	28.9	28.7
LastHalfHo..	29.2	28.3	28.9	32.6	34.4	29.9	31.5	27.6	28.1	30.3	28.7	30.4	29.5

Quotesize (shares)

FirstHalfHo..	53,240	60,150	57,819	51,257	44,628	44,984	46,915	50,161	52,263	57,046	48,244	57,635	48,604
MidDay	125,681	133,760	139,513	105,466	95,368	103,352	109,280	111,917	104,185	124,365	117,027	110,699	96,467
LastHalfHo..	121,314	127,420	122,742	102,051	100,542	105,527	109,997	124,934	124,186	118,507	116,047	117,591	108,108

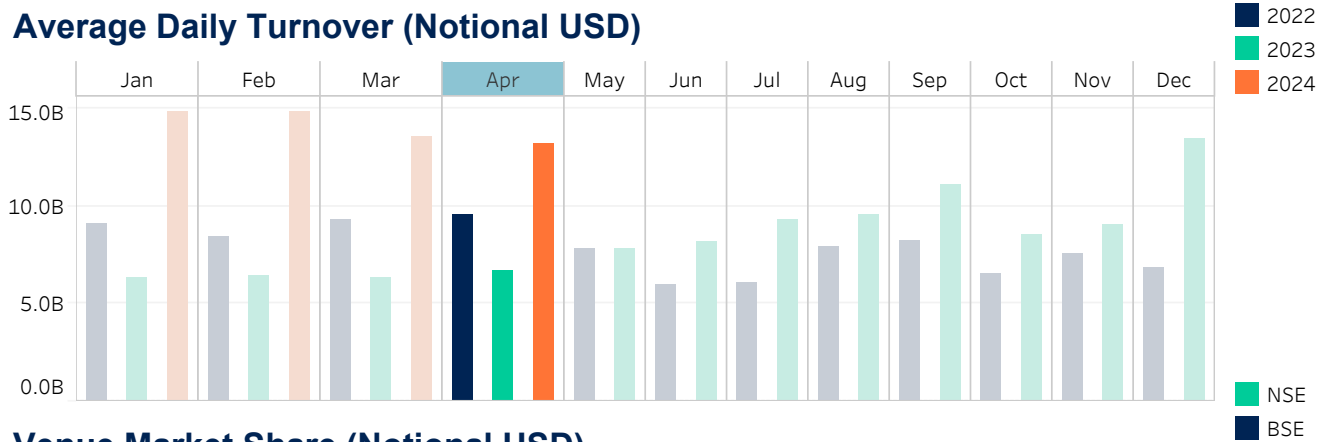
Median used for all metrics

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

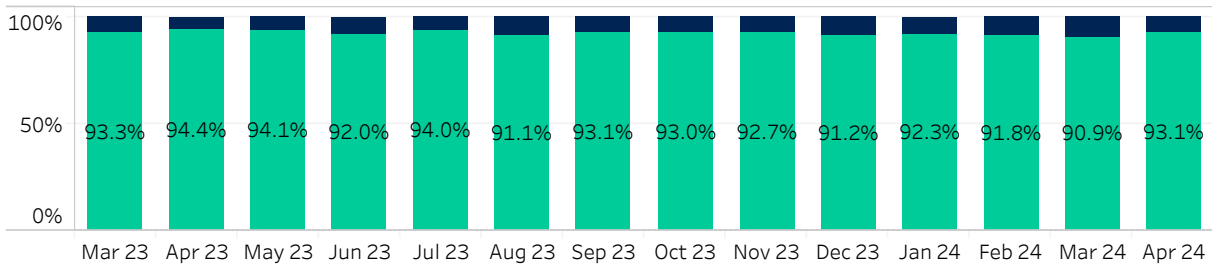
Source data: Virtu Financial

India

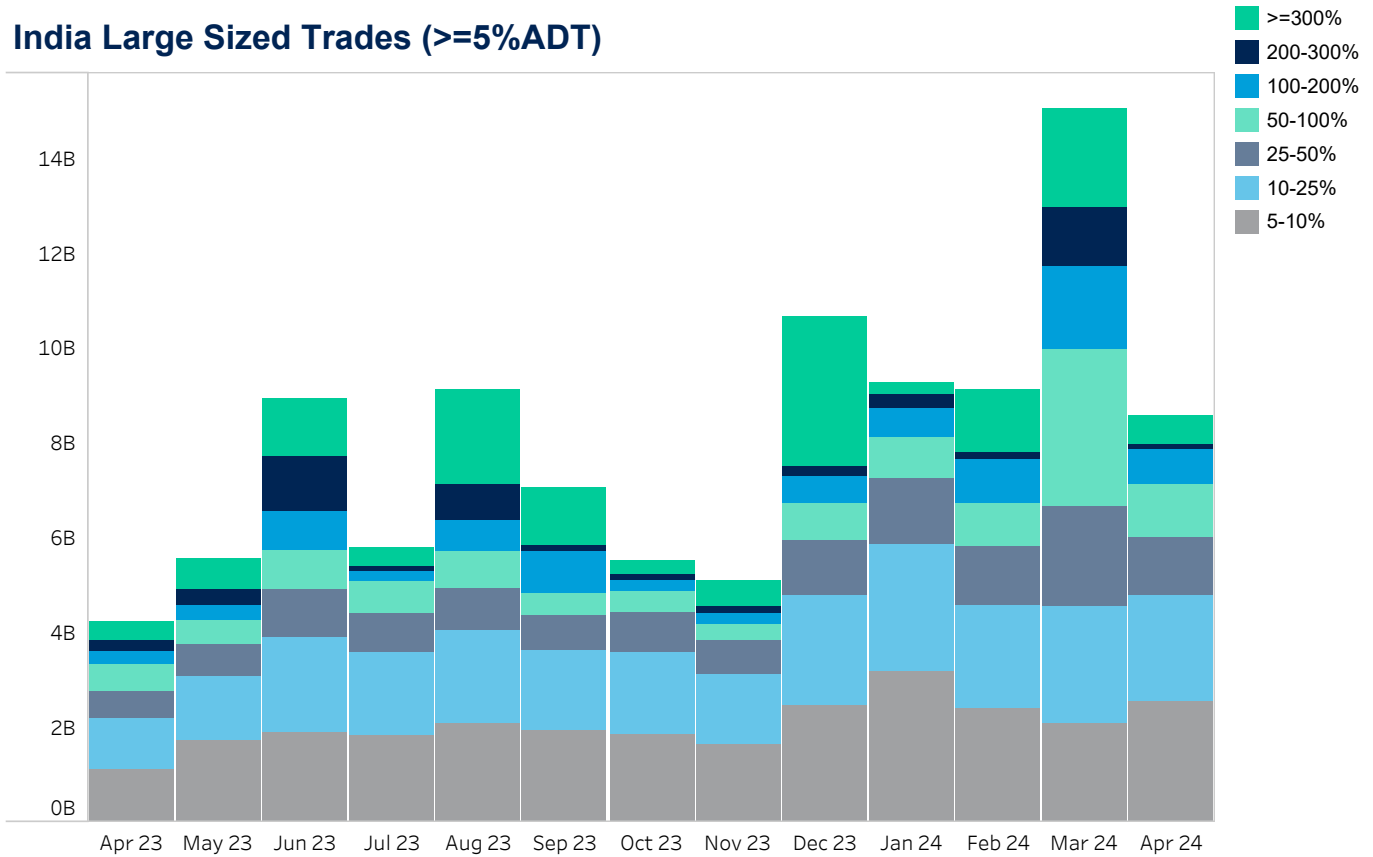
Average Daily Turnover (Notional USD)



Venue Market Share (Notional USD)



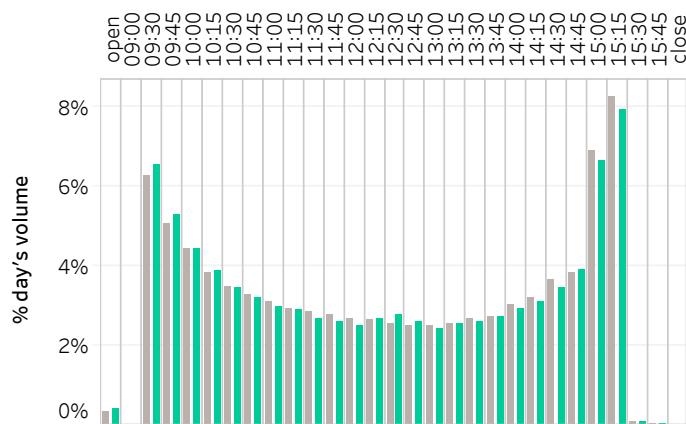
India Large Sized Trades (>=5%ADT)



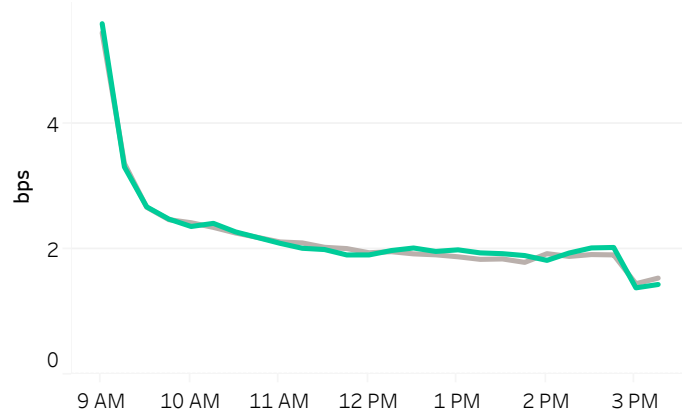
Source data: Virtu Financial

India

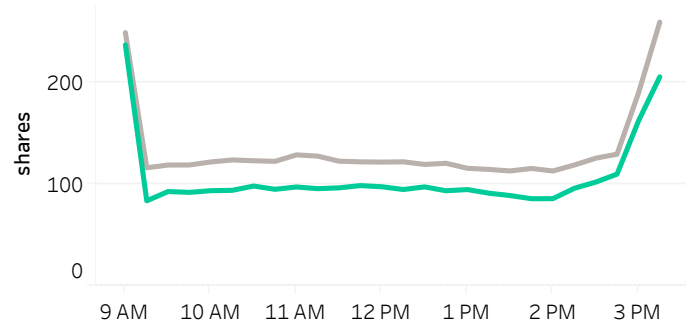
Volume Curve



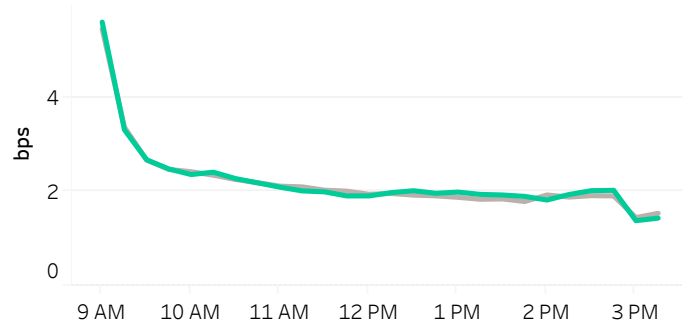
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



Rolling 12 Months Avg April 2024

Spread Bps

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

One Minute Volatility Bps

FirstHalfHo..	17.2	16.6	15.2	17.6	16.2	16.3	17.3	14.7	17.9	19.6	19.6	19.5	19.6
MidDay	7.1	7.0	6.8	7.7	7.4	7.6	7.6	7.1	8.0	8.7	9.1	8.9	8.4
LastHalfHo..	9.1	9.2	9.1	9.9	9.6	9.6	9.5	8.7	10.5	10.8	11.2	12.1	10.6

Quotesize (shares)

FirstHalfHo..	133.9	142.2	143.1	131.7	114.8	117.2	112.5	108.1	118.4	102.2	90.9	91.8	88.1
MidDay	143.1	151.0	151.7	124.1	118.6	120.7	108.5	116.7	118.3	99.1	90.4	91.0	94.1
LastHalfHo..	256.4	262.0	268.0	231.3	206.0	230.8	197.4	229.1	196.5	182.0	169.3	188.1	191.5

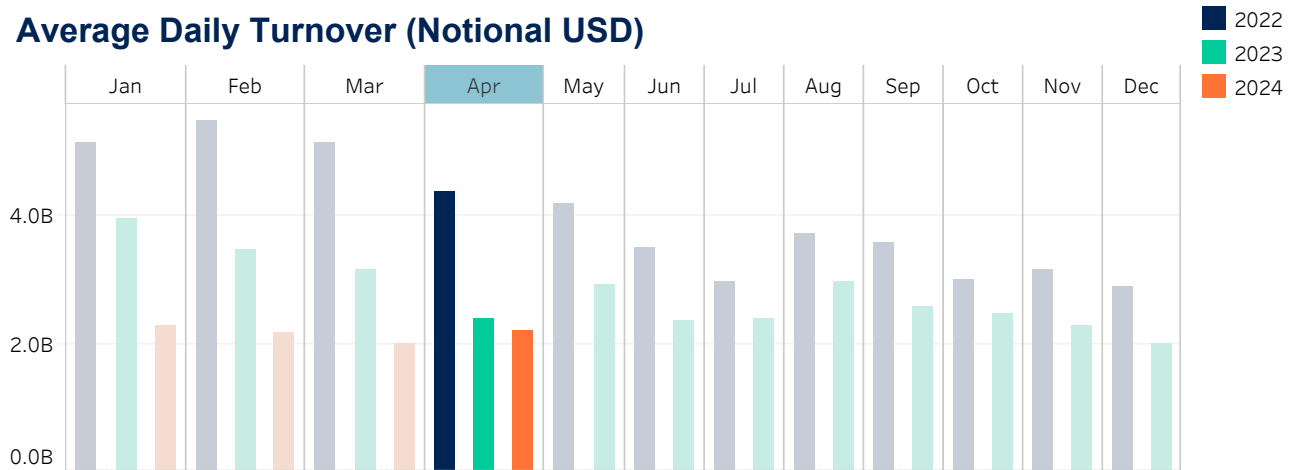
Median used for all metrics

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

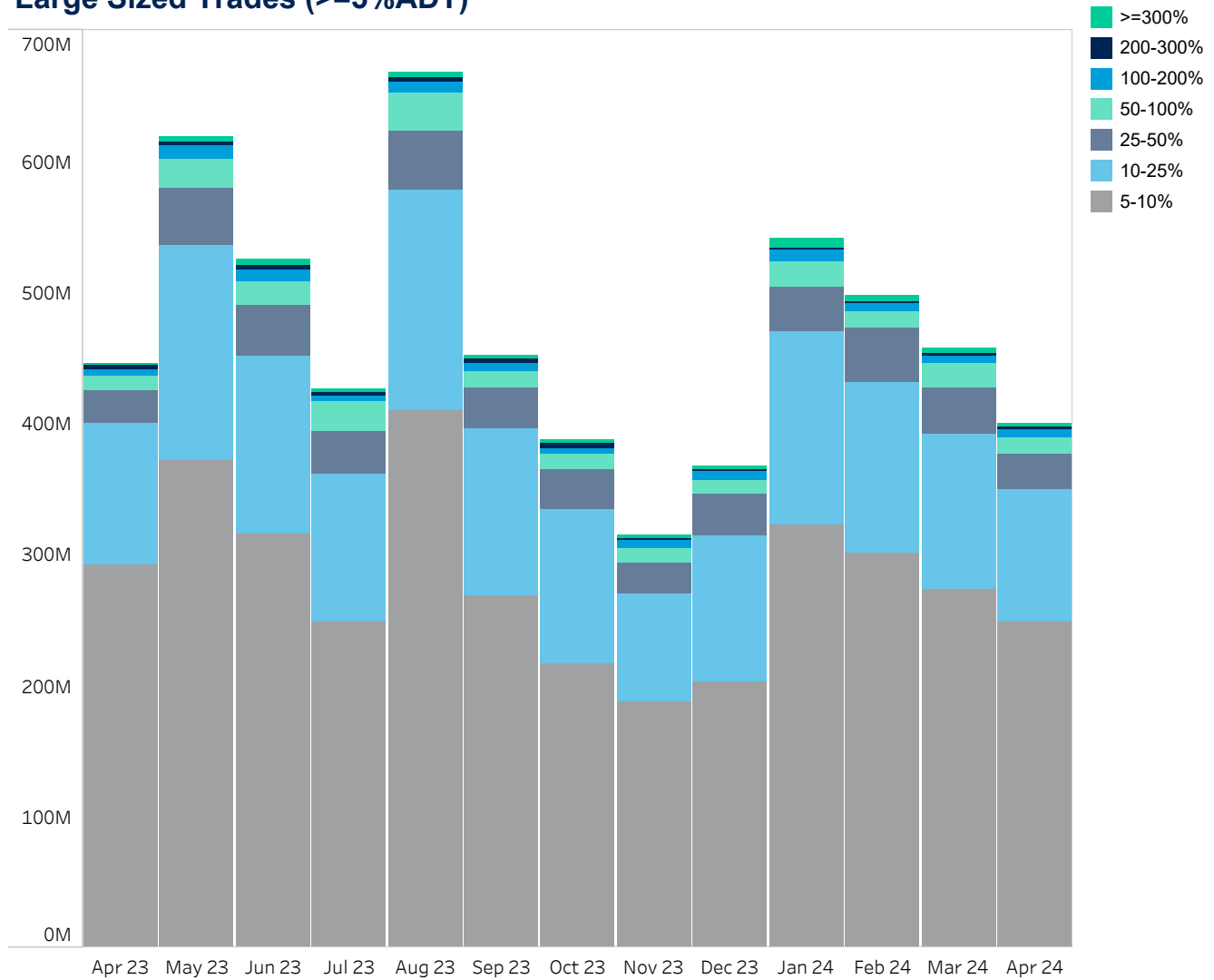
Source data: Virtu Financial

Thailand

Average Daily Turnover (Notional USD)



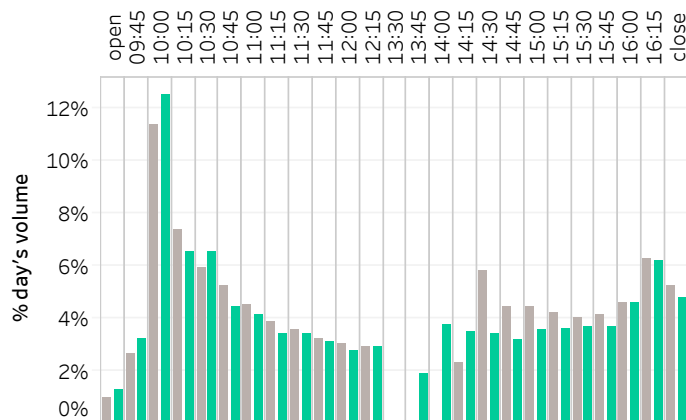
Large Sized Trades (>=5%ADT)



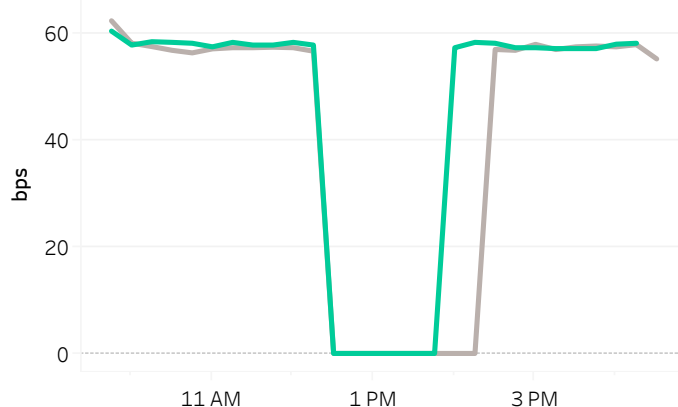
Source data: Virtu Financial

Thailand

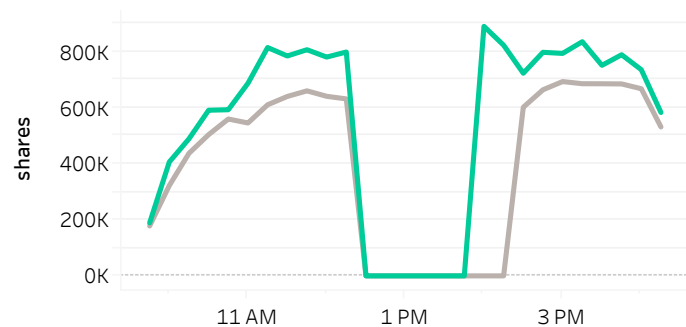
Volume Curve



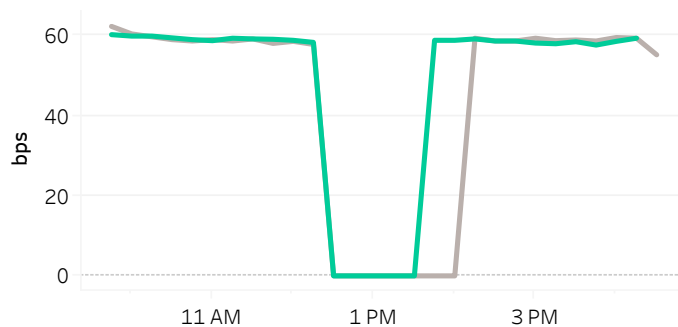
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



Rolling 12 Months Avg April 2024

Spread Bps

	2023						2024						
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
FirstHalfHo..	59.2	65.1	65.6	61.9	62.3	61.9	64.3	62.7	64.0	61.2	60.1	58.8	60.0
MidDay	55.8	58.4	59.3	56.7	56.3	58.7	59.3	58.3	59.2	57.6	57.0	56.2	58.0
LastHalfHo..	56.0	58.7	59.3	58.0	57.0	59.0	59.3	59.0	51.4	58.3	57.3	56.3	58.0

One Minute Volatility Bps

FirstHalfHo..	60.8	63.9	63.5	60.4	61.7	61.2	64.3	63.5	63.8	61.2	62.3	60.4	60.8
MidDay	57.0	60.4	60.8	58.7	58.3	60.1	60.4	60.4	60.4	59.3	58.1	57.6	58.8
LastHalfHo..	57.6	60.1	60.8	59.0	58.7	59.0	60.8	60.4	51.4	59.3	58.1	57.6	59.0

Quotesize (shares)

FirstHalfHo..	200,957	156,753	157,282	170,264	205,336	202,658	146,123	160,913	162,686	190,460	187,498	201,086	203,810
MidDay	624,930	536,008	510,989	542,854	699,283	749,767	485,941	528,048	602,762	686,060	674,355	709,700	770,373
LastHalfHo..	570,432	472,021	490,710	518,167	619,275	626,196	465,624	501,806	371,650	597,307	602,884	611,971	624,177

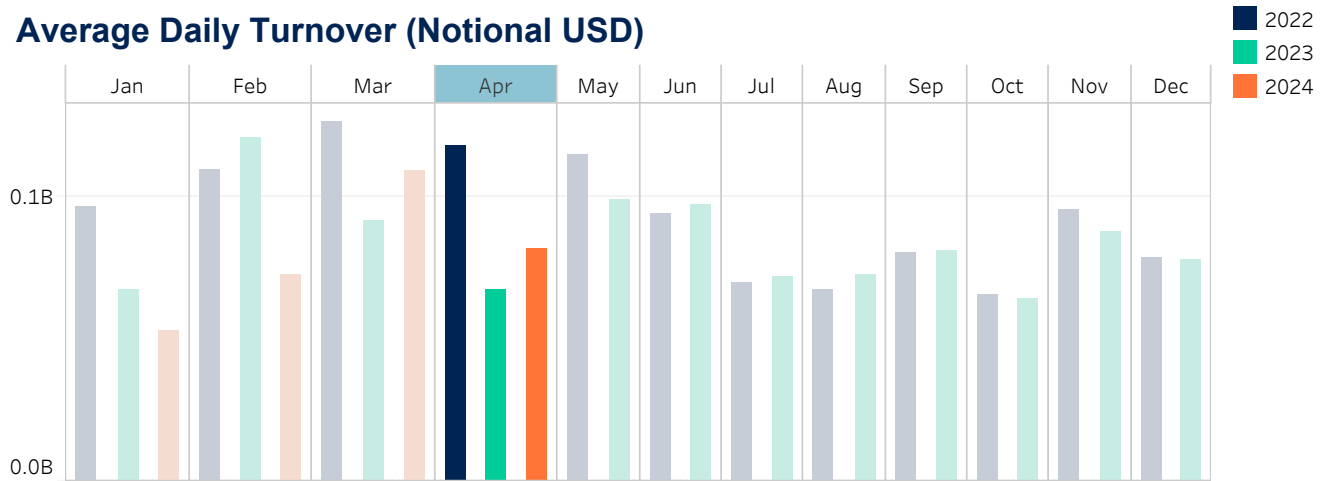
Median used for all metrics

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

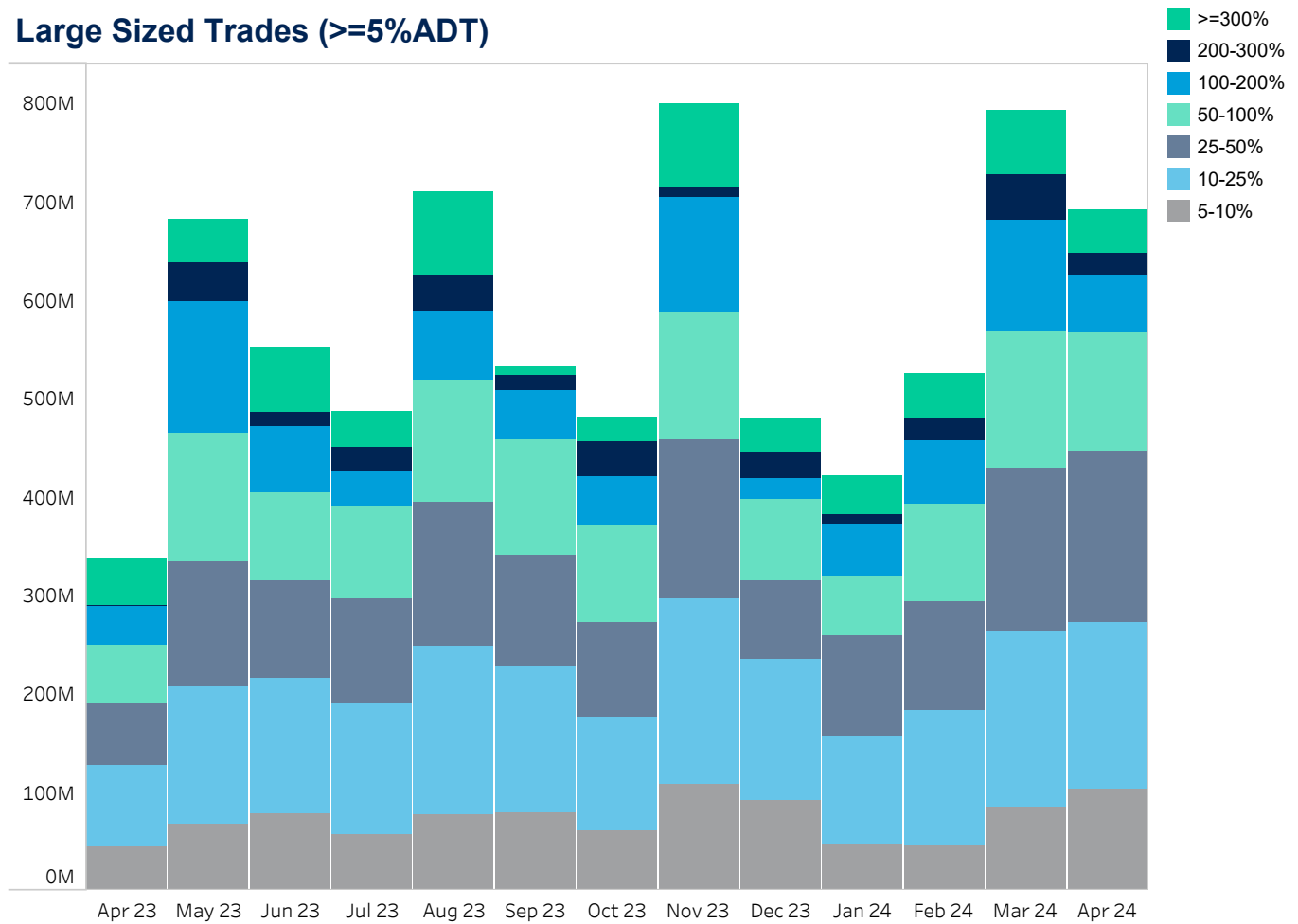
Source data: Virtu Financial

New Zealand

Average Daily Turnover (Notional USD)



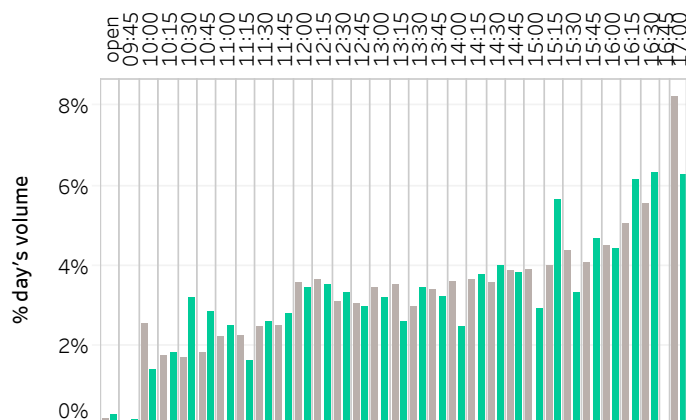
Large Sized Trades (>=5%ADT)



Source data: Virtu Financial

New Zealand

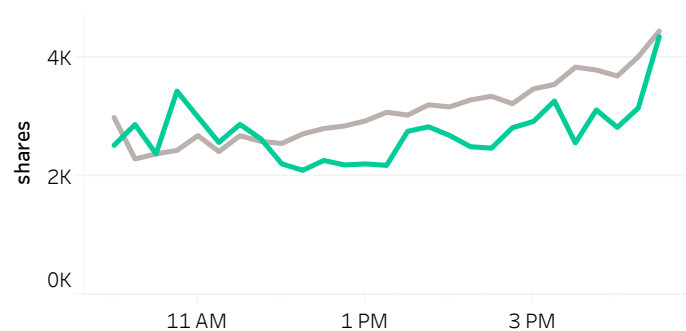
Volume Curve



Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



Rolling 12 Months Avg April 2024

Spread Bps

	2023						2024						
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
FirstHalfHo..	23.3	33.5	23.1	27.3	26.0	30.3	28.2	28.9	35.4	37.0	35.1	31.2	34.3
MidDay	13.8	13.7	13.3	13.5	14.5	12.4	14.7	14.3	16.7	17.1	19.6	12.7	12.5
LastHalfHo..	18.4	17.4	17.7	17.9	18.0	16.3	19.7	18.1	18.6	22.2	22.5	17.1	15.6

One Minute Volatility Bps

FirstHalfHo..	19.0	18.6	15.9	18.4	19.0	20.9	23.1	19.9	19.4	29.1	28.3	23.8	26.1
MidDay	15.2	13.3	13.3	12.8	13.7	12.5	15.0	14.6	16.4	17.2	19.2	12.3	12.1
LastHalfHo..	19.0	18.2	18.5	18.3	18.4	19.4	20.8	19.6	19.3	22.5	23.4	20.4	17.3

Quotesize (shares)

FirstHalfHo..	2,669	2,496	2,658	2,980	2,981	2,681	3,043	2,397	2,093	2,584	3,199	2,413	2,650
LastHalfHo..	5,071	4,691	5,091	4,326	4,567	3,988	4,171	4,335	4,150	4,284	4,516	4,518	3,911
MidDay	3,102	3,512	3,372	3,016	3,363	3,098	3,456	2,624	2,939	2,784	3,414	2,746	2,757

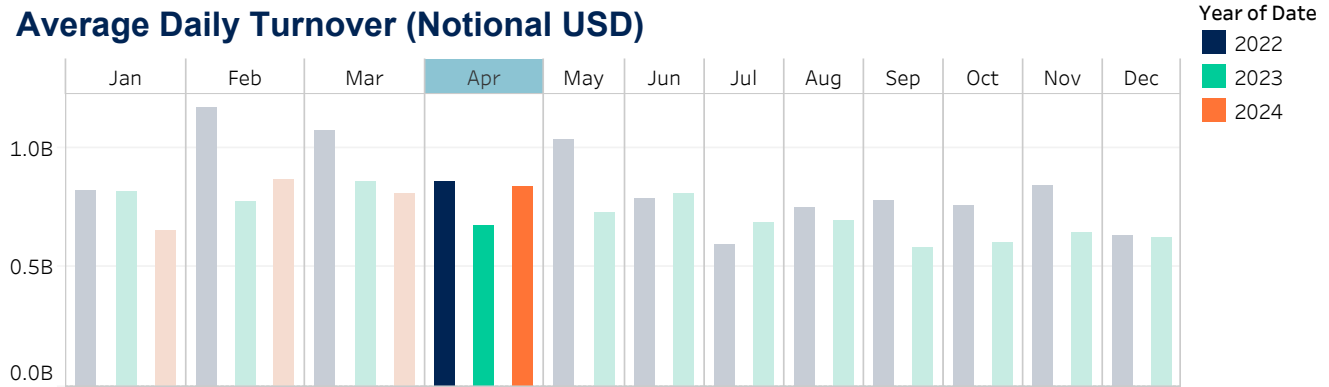
Median used for all metrics

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

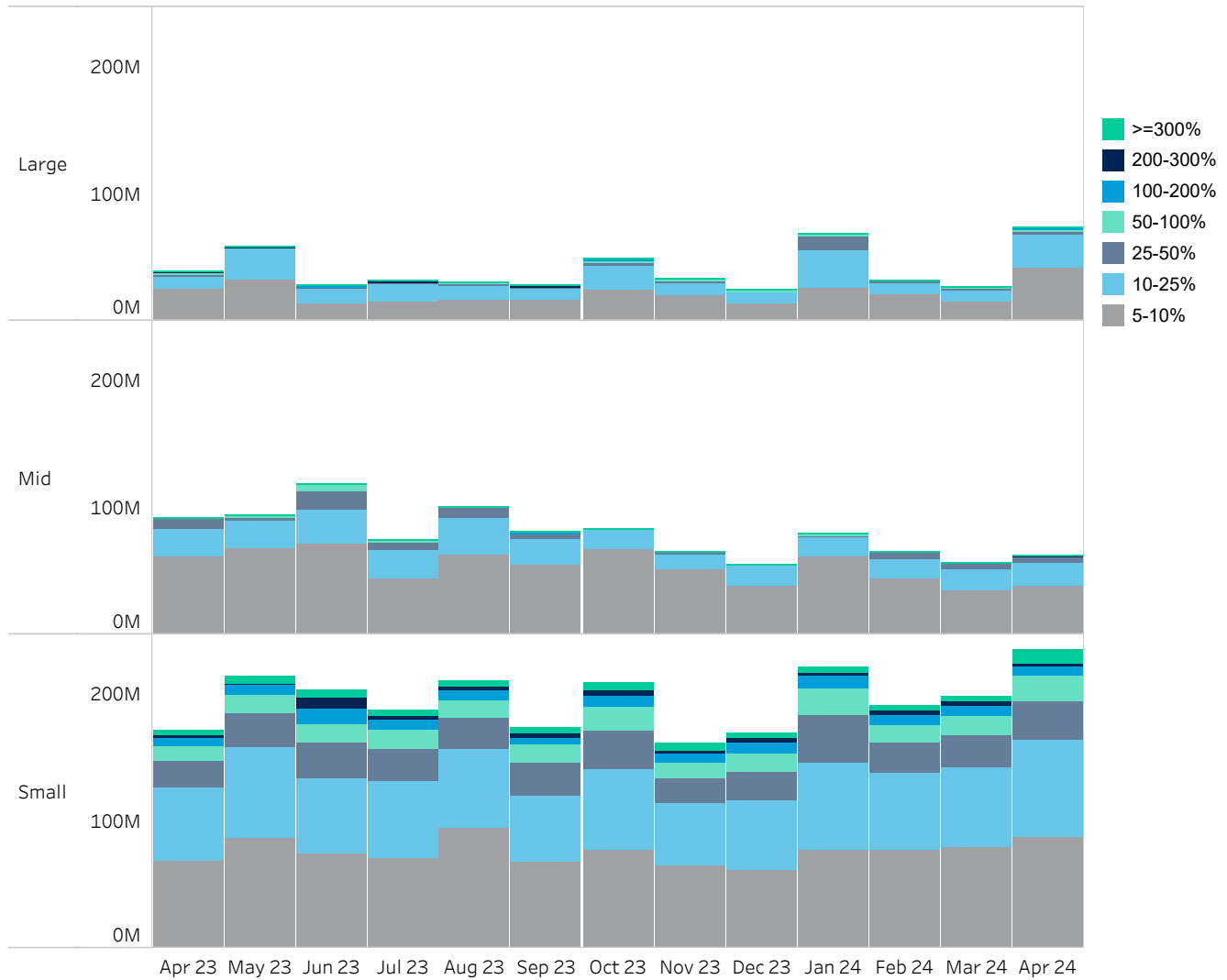
Source data: Virtu Financial

Singapore

Average Daily Turnover (Notional USD)



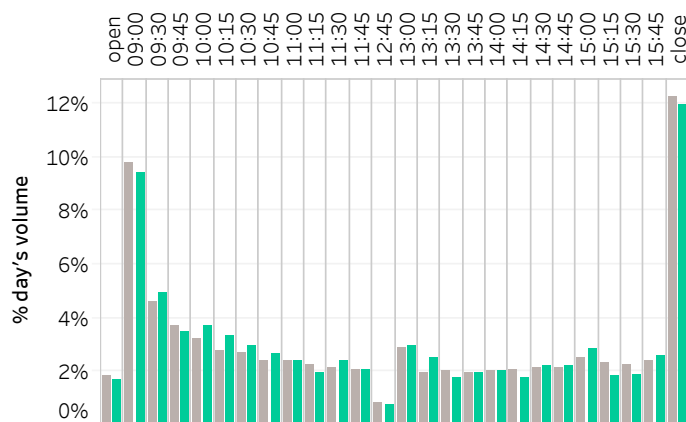
Large Sized Trades (>=5%ADT)



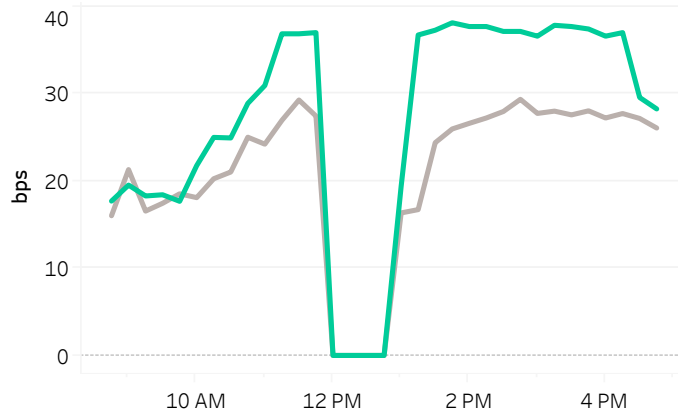
Source data: Virtu Financial

Singapore

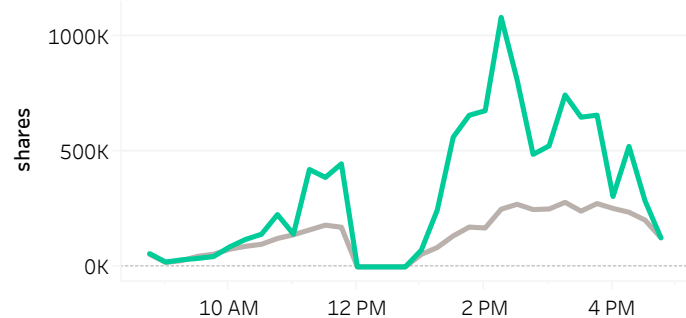
Volume Curve



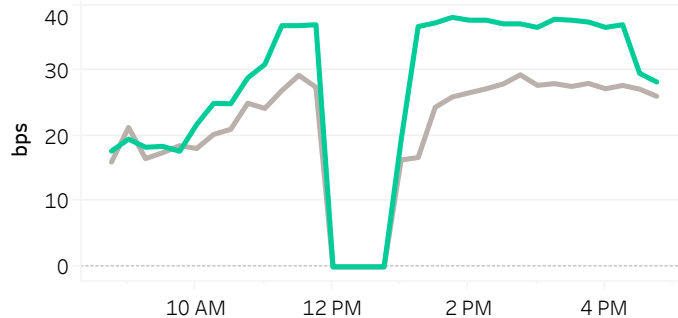
Intraday Spread (bps)



Intraday Quotesize (Shares)



Intraday Volatility (bps)



Rolling 12 Months Avg April 2024

Spread Bps

	2023						2024						
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
FirstHalfHo..	14.2	16.4	16.6	14.6	19.1	16.2	15.8	16.8	15.1	15.0	15.0	18.7	15.6
MidDay	27.0	27.0	24.5	17.5	27.1	26.7	28.5	26.5	28.9	26.8	18.1	30.0	36.7
LastHalfHo..	26.8	26.3	25.8	26.4	26.3	26.9	29.5	27.1	28.0	29.7	26.4	29.4	28.6

One Minute Volatility Bps

FirstHalfHo..	34.4	35.7	41.7	41.7	51.4	31.3	50.6	52.8	40.9	41.6	42.5	39.9	52.1
MidDay	27.6	27.5	26.9	26.3	27.6	27.0	31.3	27.3	29.1	28.8	26.3	34.2	36.9
LastHalfHo..	27.1	26.8	27.4	27.1	28.0	27.4	32.6	27.9	29.4	32.6	30.4	30.1	34.1

Quotesize (shares)

FirstHalfHo..	48,869	57,725	86,605	39,923	30,361	36,050	50,518	72,786	53,345	55,164	68,837	35,573	61,123
MidDay	327,685	231,700	112,054	126,638	232,427	176,852	239,708	89,777	193,459	181,018	116,322	187,792	374,365
LastHalfHo..	256,196	170,897	139,765	143,803	181,844	179,377	226,408	119,166	139,335	199,052	164,279	161,581	161,143

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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