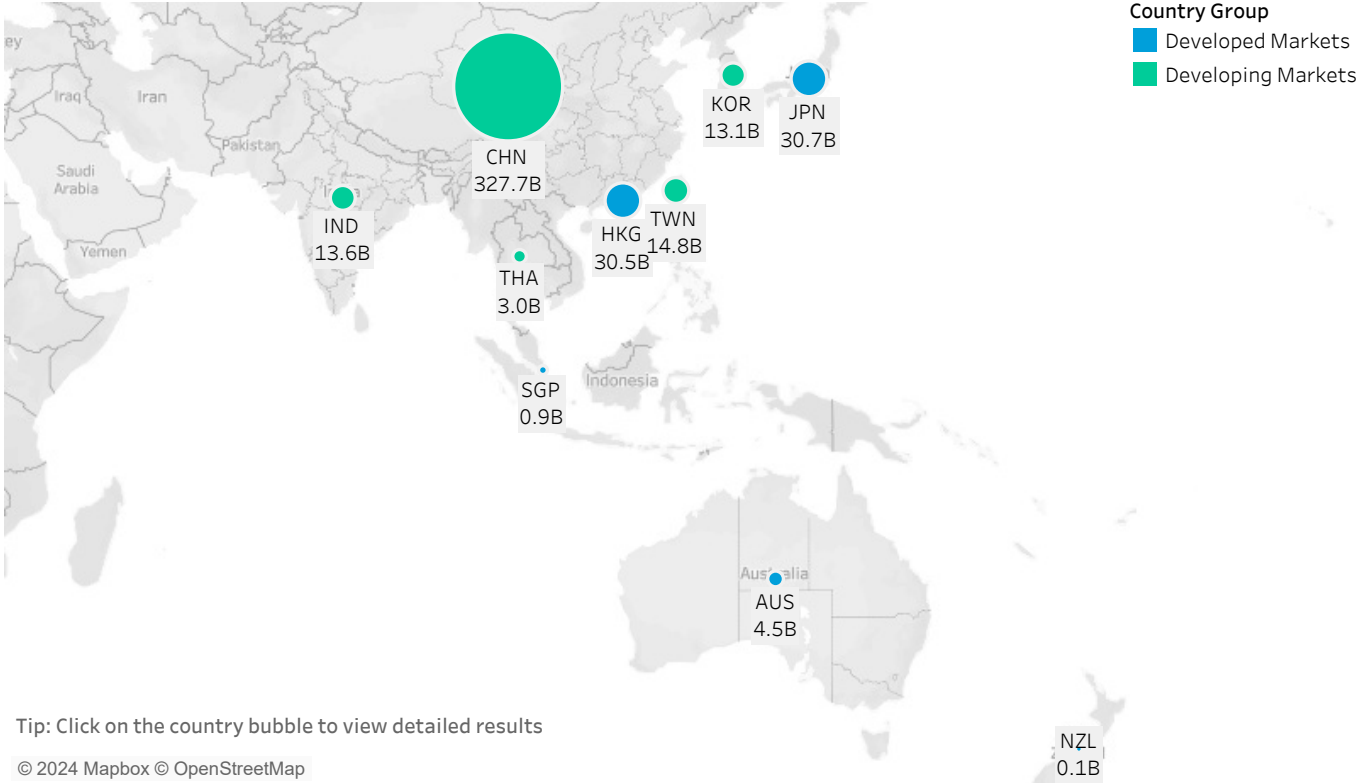


# October 2024 APAC Market Structure Monthly

## Average Daily Turnover (Notional USD)



Tip: Click on the country bubble to view detailed results

© 2024 Mapbox © OpenStreetMap

## Country Breakdowns

Hong Kong

China

Japan

Australia

South Korea

Taiwan

India

Thailand

New Zealand

Singapore

# Oct 2024

## AP Market Structure Monthly

### MICROSTRUCTURE OBSERVATIONS

- 7 out of 10 countries in our APAC universe saw lower average daily turnover (ADT) in October 2024 compared to the prior month (MoM). Despite these general declines, Hong Kong and China had large increases in ADT in October due to Golden Week and speculation of economic stimulus by the Chinese government.
  - ADT in Hong Kong and China (Shanghai and Shenzhen combined) increased 65% and 140% MoM in October 2024 to US\$30B and US\$328B.
  - On the contrary, ADT in Australia and Japan decreased 19% and 11% MoM to US\$4B and US\$31B in October.
- Volatility around the Hong Kong open auction increased 28% MoM in October 2024, up from 28bps to 36bps. While volatility gradually moved lower towards the afternoon session, intraday volatility remained 5-10% higher in October compared to the rolling 12-month average.

### AP MARKET STRUCTURE NEWS

#### **Tokyo Stock Exchange Extended Trading Hours by 30 Minutes and Introduced 5-minute Closing Call Auction**

On 5 November 2024, the Tokyo Stock Exchange (TSE) upgraded its trading system to Arrowhead 4.0. With this upgrade, TSE extended trading hours by 30 minutes. The trading hours of the derivatives market was also changed in conjunction with the extension of the trading hours of the cash equity market. For the cash equity market, a 5-minute Closing Call Auction was introduced at the end of the afternoon session.

<https://www.jpx.co.jp/english/corporate/news/news-releases/0060/20241009-01.html>

[https://www.jpx.co.jp/english/corporate/news/news-releases/0060/dh3otn000000jic1-att/20241105\\_PressRelease\\_en.pdf](https://www.jpx.co.jp/english/corporate/news/news-releases/0060/dh3otn000000jic1-att/20241105_PressRelease_en.pdf)

#### **Hong Kong Exchange and Clearing Limited to Launch Virtual Asset Index Series**

On 28 October 2024, Hong Kong Exchange and Clearing Limited (HKEX) announced the launch of the HKEX Virtual Asset Index Series, for the purpose of offering reliable benchmarks for digital assets and supporting the development of the asset class in Hong Kong.

[https://www.hkex.com.hk/News/News-Release/2024/241028news?sc\\_lang=en](https://www.hkex.com.hk/News/News-Release/2024/241028news?sc_lang=en)

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+1.646.682.6199

[info@virtu.com](mailto:info@virtu.com) | [www.virtu.com](http://www.virtu.com)

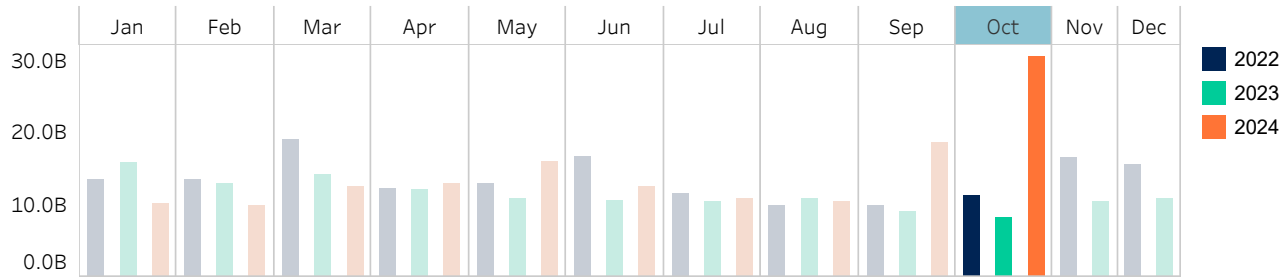


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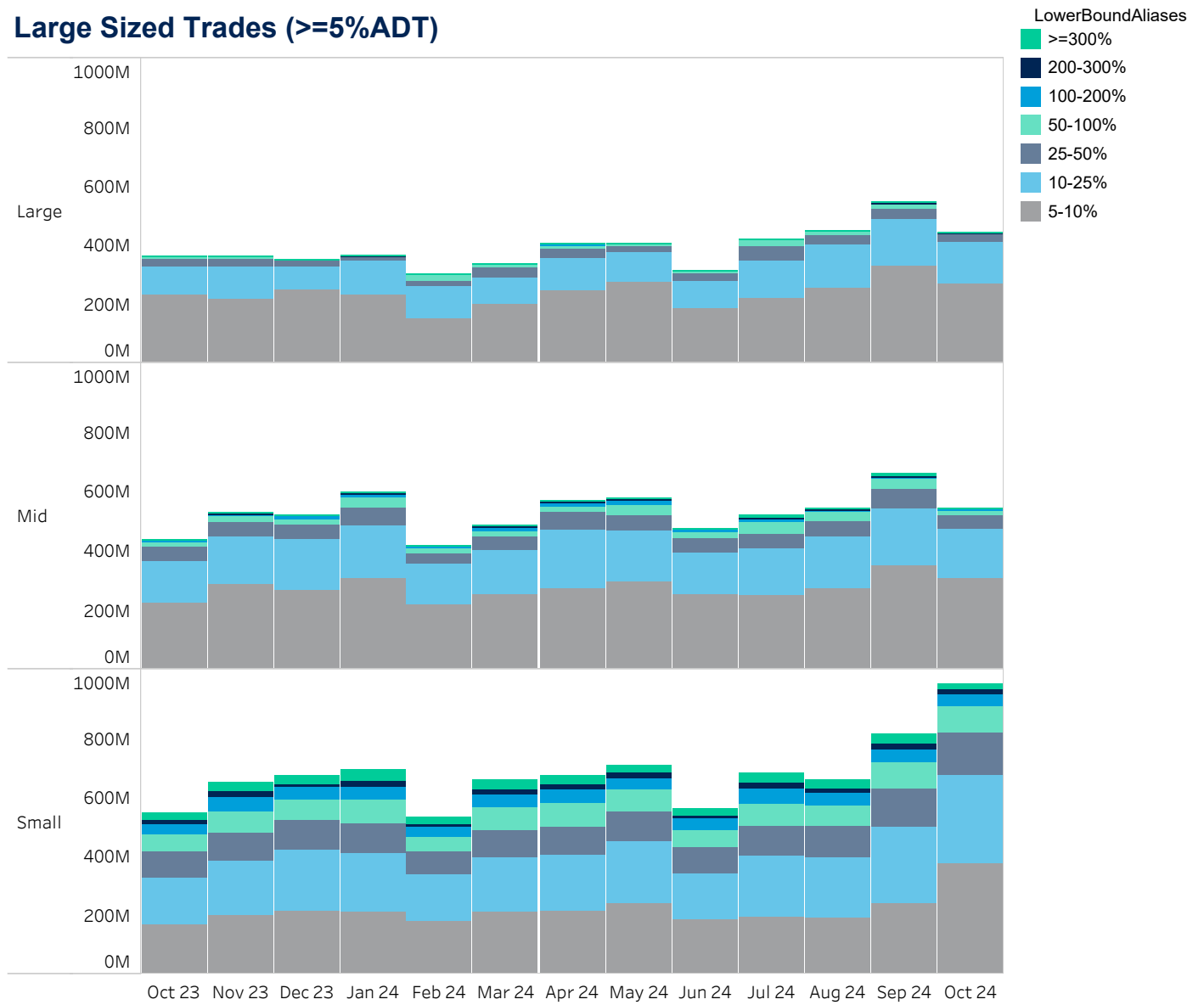
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# Hong Kong

## Average Daily Turnover (Notional USD)



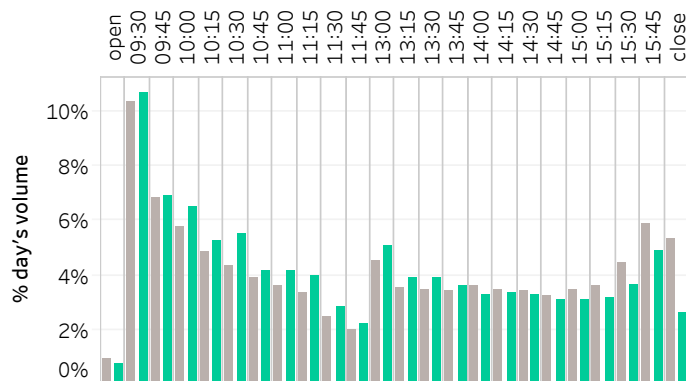
## Large Sized Trades (>=5%ADT)



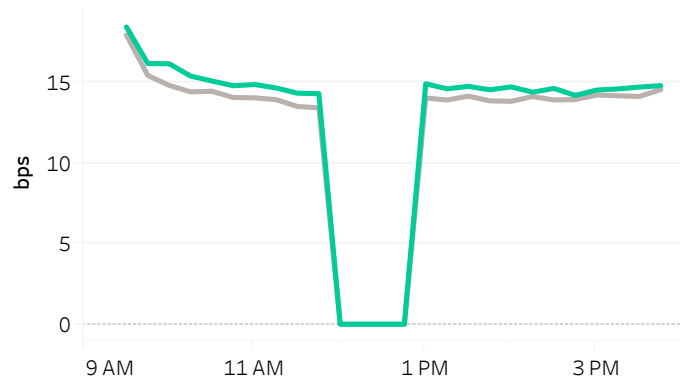
Source data: Virtu Financial

# Hong Kong

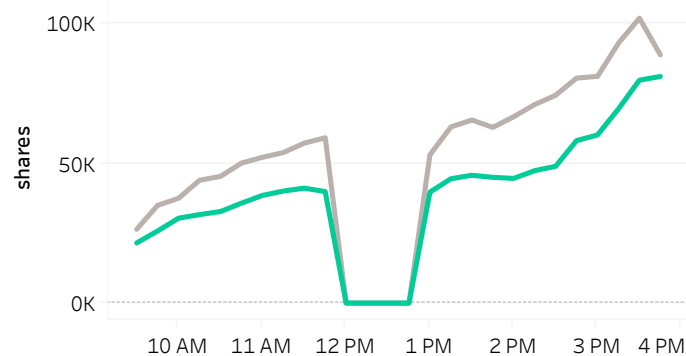
## Volume Curve



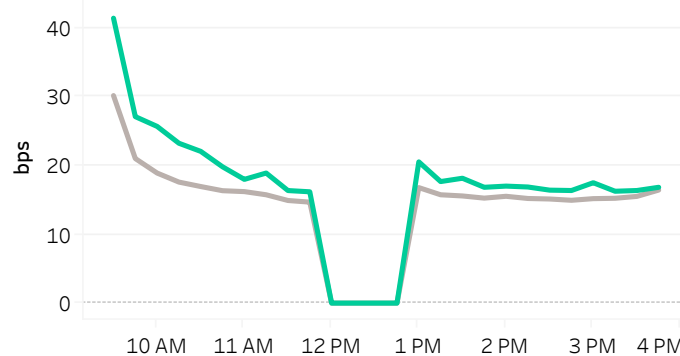
## Intraday Spread (bps)



## Intraday Quotesize (Shares)



## Intraday Volatility (bps)



Rolling 12 Months Avg (Brown line) October 2024 (Green line)

## Spread Bps

	2023			2024									
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
FirstHalfHo..	18.4	17.1	17.0	16.7	16.8	16.2	16.3	16.0	16.6	17.0	17.2	16.6	17.7
MidDay	14.7	13.4	14.2	14.4	13.6	13.5	13.7	13.5	14.0	14.4	14.8	14.5	15.0
LastHalfHo..	15.0	14.3	15.2	15.1	14.3	13.8	13.9	13.9	14.1	14.6	14.9	14.7	14.9

## One Minute Volatility Bps

FirstHalfHo..	24.3	24.3	24.1	25.7	26.8	26.1	26.5	26.0	24.9	24.7	24.6	28.3	36.2
MidDay	16.0	15.2	15.9	16.5	16.1	15.8	15.2	15.3	15.4	15.4	15.8	16.9	19.6
LastHalfHo..	16.6	16.9	17.6	17.3	16.4	15.9	15.3	15.9	15.8	15.6	16.0	16.6	17.4

## Quotesize (shares)

FirstHalfHo..	27,601	23,593	24,188	25,581	23,164	28,948	34,226	31,313	32,177	36,901	37,449	35,591	23,254
MidDay	46,953	46,472	52,781	52,997	41,722	57,521	64,130	61,681	64,411	67,617	67,236	73,170	37,919
LastHalfHo..	77,442	72,387	70,619	79,360	72,944	95,535	97,872	98,721	97,430	108,596	105,782	110,466	73,405

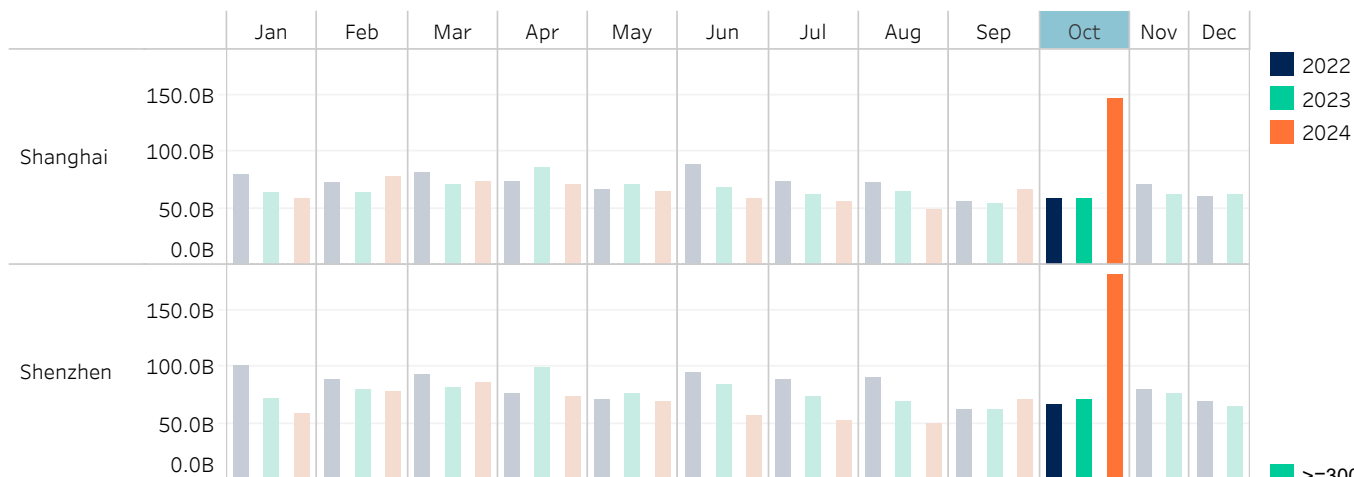
Median used for all metrics

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

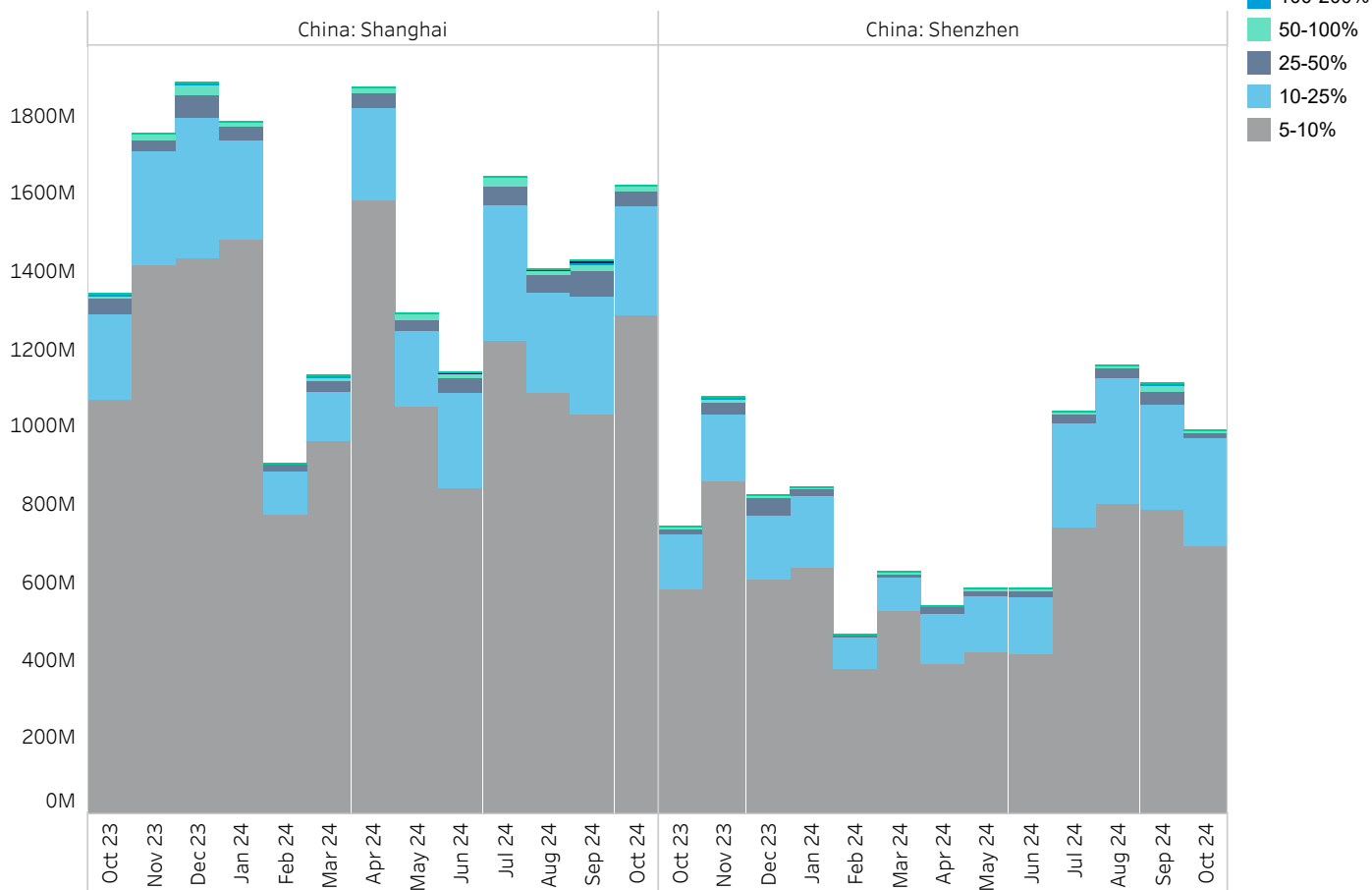
Source data: Virtu Financial

# China

## Average Daily Turnover (Notional USD)



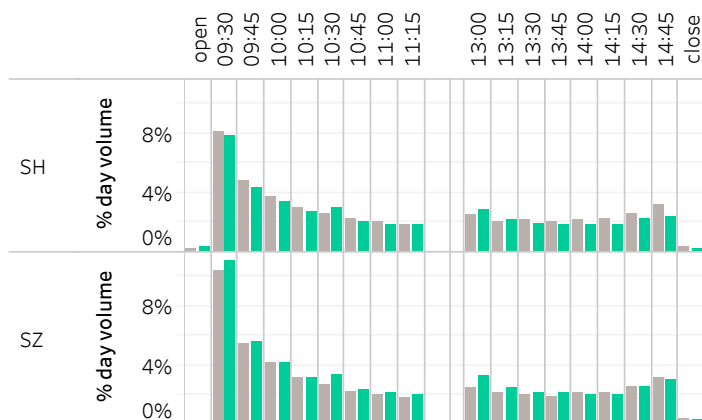
## Large Sized Trades (>=5%ADT)



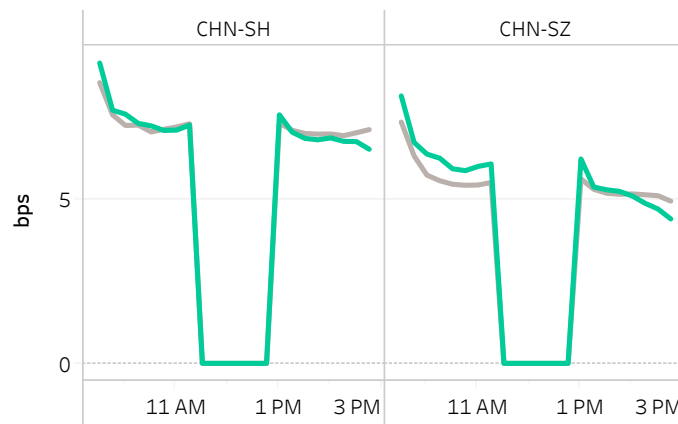
Source data: Virtu Financial

# China

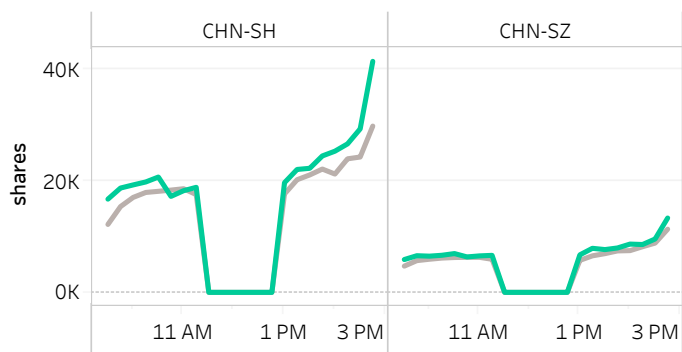
## Volume Curve



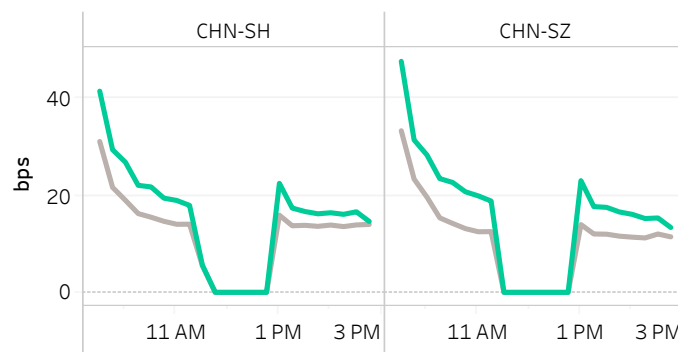
## Intraday Spread (bps)



## Intraday Quotesize (Shares)



## Intraday Volatility (bps)



■ Rolling 12 Months Avg ■ October 2024

## Spread Bps

	CHN-SH							CHN-SZ						
	Apr	May	Jun	Jul	Aug	Sep	Oct	Apr	May	Jun	Jul	Aug	Sep	Oct
FirstHalfHo..	8.2	7.7	7.9	8.1	8.3	8.5	8.8	6.8	6.6	6.8	7.0	7.1	7.2	7.6
MidDay	7.0	6.7	7.0	7.3	7.4	7.7	7.4	5.5	5.2	5.4	5.6	5.7	5.8	6.0
LastHalfHo..	6.7	6.4	6.8	7.3	7.4	7.5	6.7	5.0	4.8	5.1	5.3	5.4	5.4	4.8

## One Minute Volatility Bps

FirstHalfHo..	29.1	25.2	25.8	27.3	26.5	29.5	37.2	30.2	26.0	27.0	28.5	26.5	28.9	41.3
MidDay	14.6	13.3	14.0	15.0	14.0	16.1	19.3	14.0	11.9	12.5	13.6	12.1	13.9	20.2
LastHalfHo..	13.9	12.7	14.1	14.7	14.1	14.8	16.5	11.7	10.5	12.0	12.3	11.8	12.4	15.5

## Quotesize (shares)

FirstHalfHo..	14,795	16,130	13,737	13,345	12,992	14,870	17,624	5,677	5,977	5,165	5,144	5,053	5,919	6,475
MidDay	19,057	21,688	18,327	16,893	18,266	20,396	19,029	6,807	7,527	6,395	6,100	6,107	7,318	6,869
LastHalfHo..	29,522	33,861	26,132	25,695	26,034	31,649	33,456	11,277	12,303	9,755	9,569	9,969	11,745	11,178

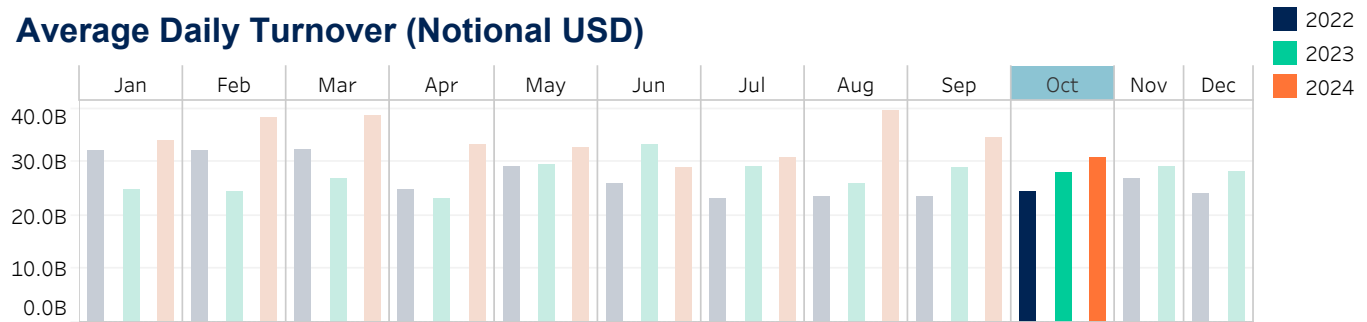
Median used for all metrics

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

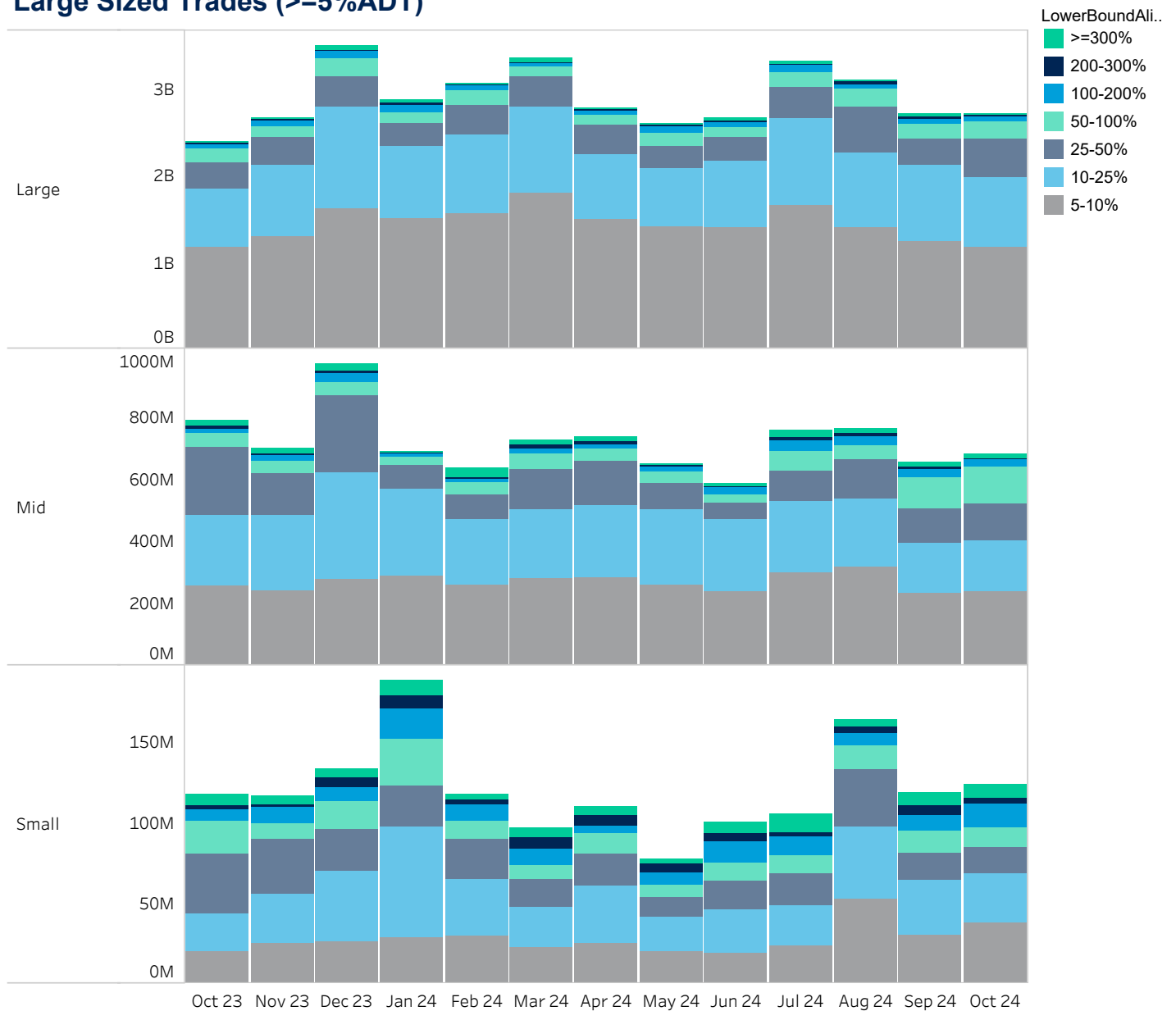
Source data: Virtu Financial

# Japan

## Average Daily Turnover (Notional USD)



## Large Sized Trades (>=5%ADT)

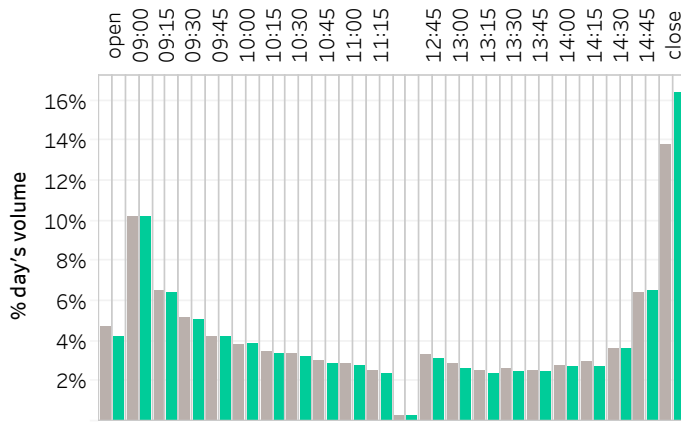


Source data: Virtu Financial

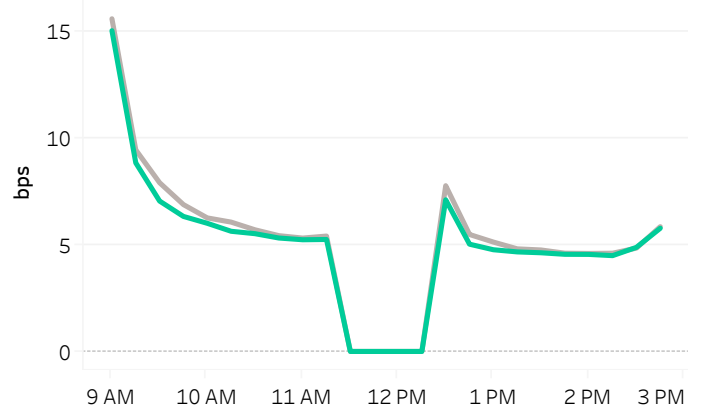


# Japan

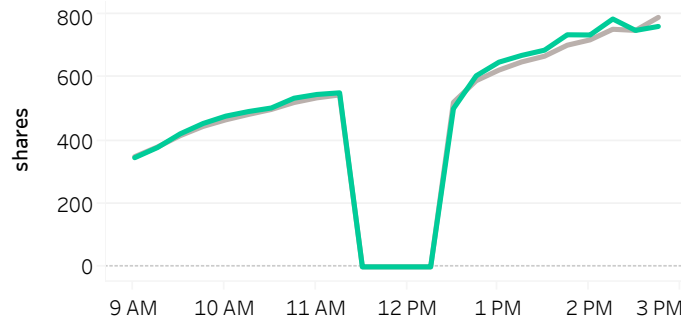
## Volume Curve



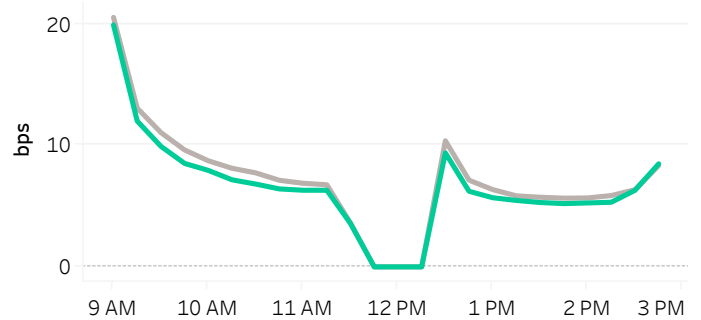
## Intraday Spread (bps)



## Intraday Quotesize (Shares)



## Intraday Volatility (bps)



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

## Spread Bps

	2023			2024									
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
FirstHalfHo..	13.0	13.5	11.7	11.6	13.1	12.8	12.3	13.0	12.3	12.3	17.4	13.6	12.1
MidDay	5.8	6.0	5.3	5.3	6.0	5.6	5.7	5.5	5.1	5.3	7.9	6.0	5.4
LastHalfHo..	5.7	5.5	5.1	4.9	5.6	5.5	5.2	5.3	5.1	5.3	8.1	6.4	5.4

## One Minute Volatility Bps

FirstHalfHo..	16.0	16.8	14.7	14.9	17.1	16.7	16.6	17.4	15.8	15.8	23.4	17.8	15.9
MidDay	7.1	7.3	6.2	6.4	7.3	7.1	7.5	7.0	6.4	6.9	10.6	7.9	6.4
LastHalfHo..	7.9	7.5	7.0	6.8	7.6	7.7	7.7	7.6	7.0	7.5	11.6	9.6	7.6

## Quotesize (shares)

FirstHalfHo..	340.1	340.5	356.6	359.3	369.3	368.9	358.4	369.9	378.6	365.6	311.6	328.1	353.8
MidDay	493.7	525.7	550.6	555.1	548.6	534.4	499.1	549.5	568.5	539.3	406.3	452.2	540.8
LastHalfHo..	694.2	778.7	749.6	764.0	784.2	738.9	720.1	833.5	863.7	769.8	536.8	563.2	757.8

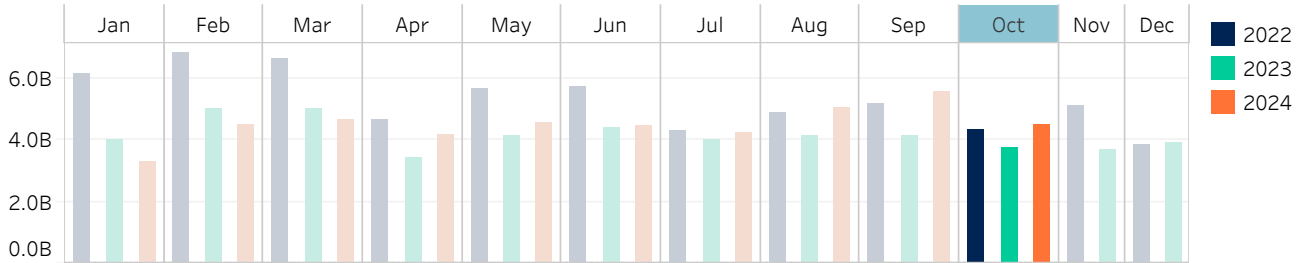
Median used for all metrics

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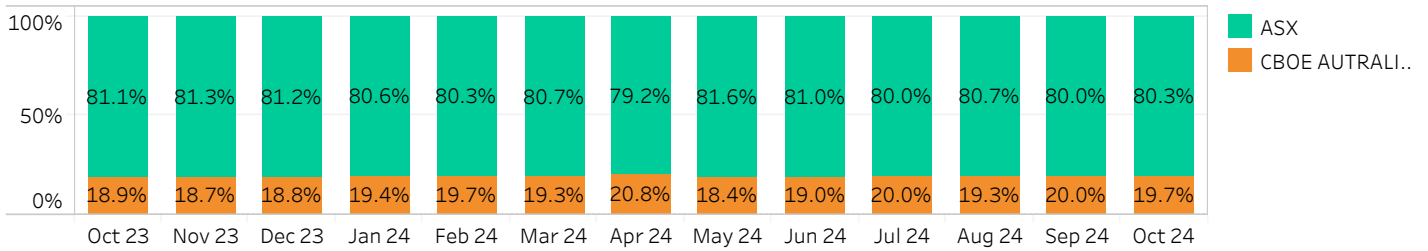
Source data: Virtu Financial

# Australia

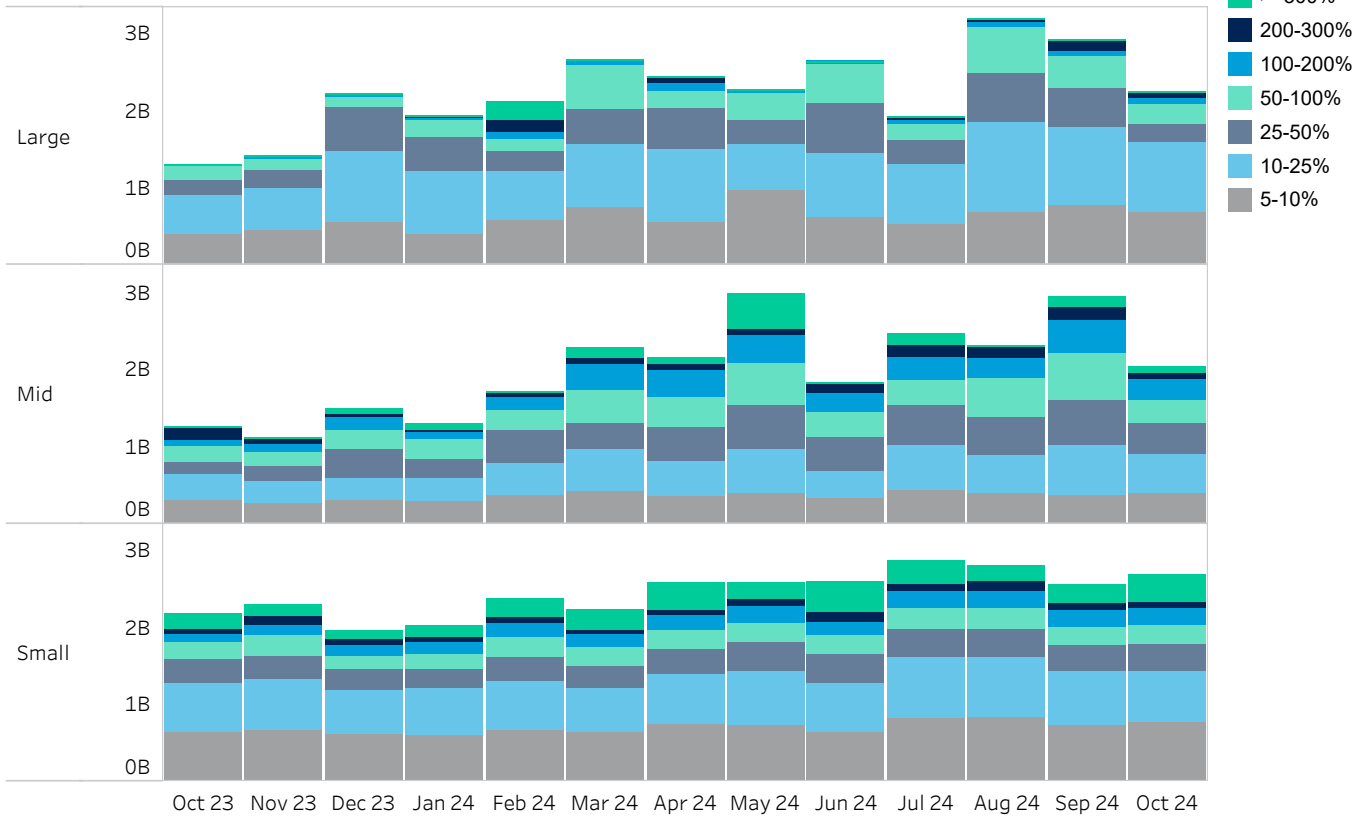
## Average Daily Turnover (Notional USD)



## Venue Market Share (Notional USD)



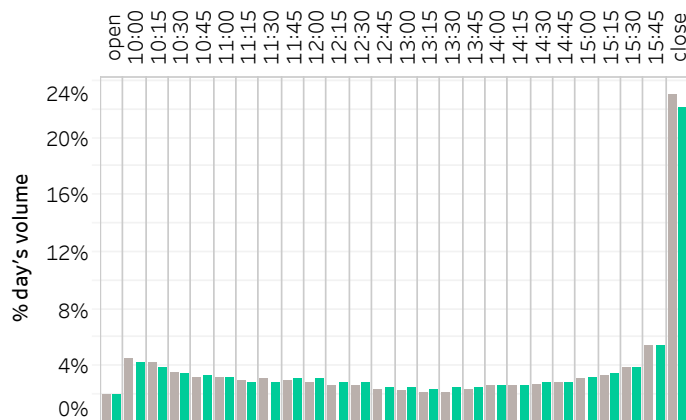
## Large Sized Trades (>=5%ADT)



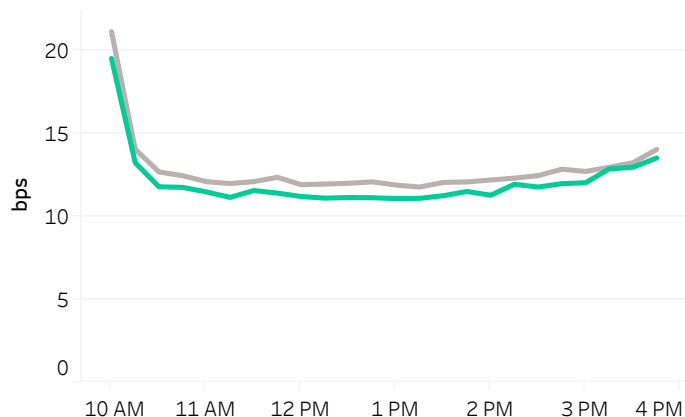
Source data: Virtu Financial

# Australia

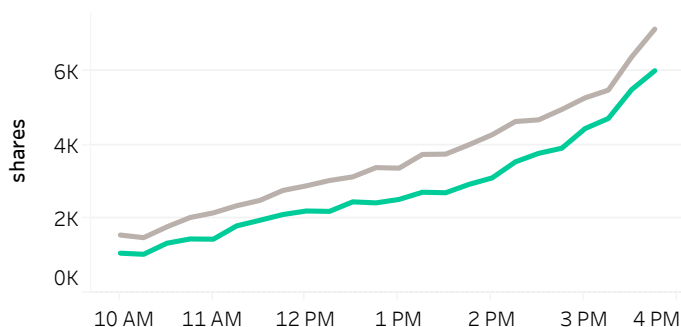
## Volume Curve



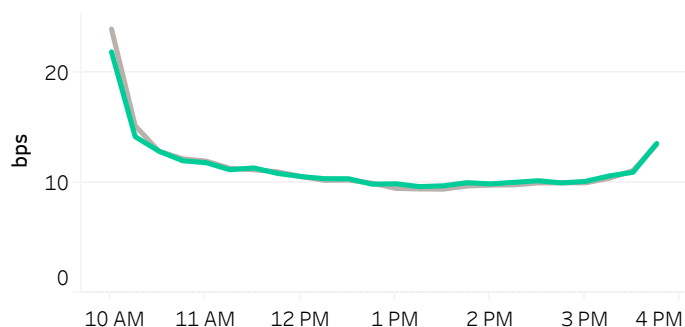
## Intraday Spread (bps)



## Intraday Quotesize (Shares)



## Intraday Volatility (bps)



■ Rolling 12 Months Avg ■ October 2024

## Spread Bps

	2023			2024									
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
FirstHalfHo..	18.7	18.1	17.6	16.7	17.7	16.7	16.3	15.6	16.5	15.9	16.6	16.3	15.5
MidDay	13.1	13.1	12.6	12.0	12.5	11.9	11.7	11.9	12.3	11.8	11.7	12.1	11.4
LastHalfHo..	15.4	15.1	14.1	13.7	13.7	13.5	13.1	13.1	13.8	13.8	13.5	13.5	13.3

## One Minute Volatility Bps

FirstHalfHo..	19.4	18.7	18.3	16.7	19.2	18.2	18.4	18.0	18.4	17.1	19.7	18.9	17.4
MidDay	10.6	10.8	10.1	9.5	10.5	10.0	9.6	10.1	10.5	10.0	10.6	10.6	10.2
LastHalfHo..	13.5	13.3	12.5	11.7	12.6	12.2	11.7	12.0	12.5	11.8	12.7	12.9	12.6

## Quotesize (shares)

FirstHalfHo..	1,601	1,443	1,515	1,528	1,587	1,547	1,545	1,433	1,580	1,482	1,437	1,514	1,083
MidDay	3,289	3,147	3,258	3,388	3,303	3,261	2,984	3,555	3,928	3,774	3,262	3,610	2,507
LastHalfHo..	7,156	6,633	6,873	6,851	6,654	6,518	6,090	6,636	7,213	7,096	6,305	6,671	5,694

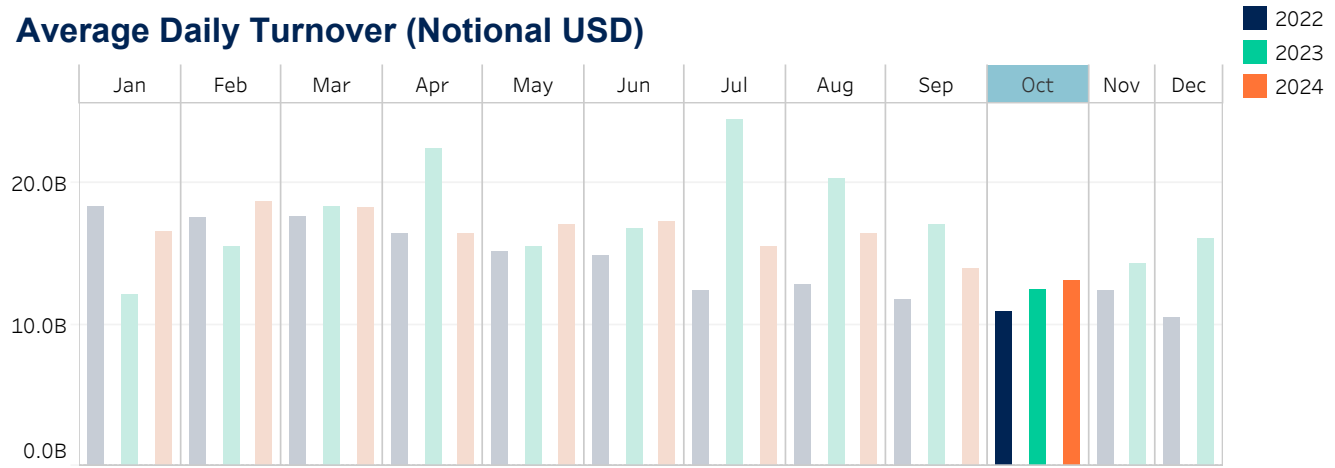
Median used for all metrics

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

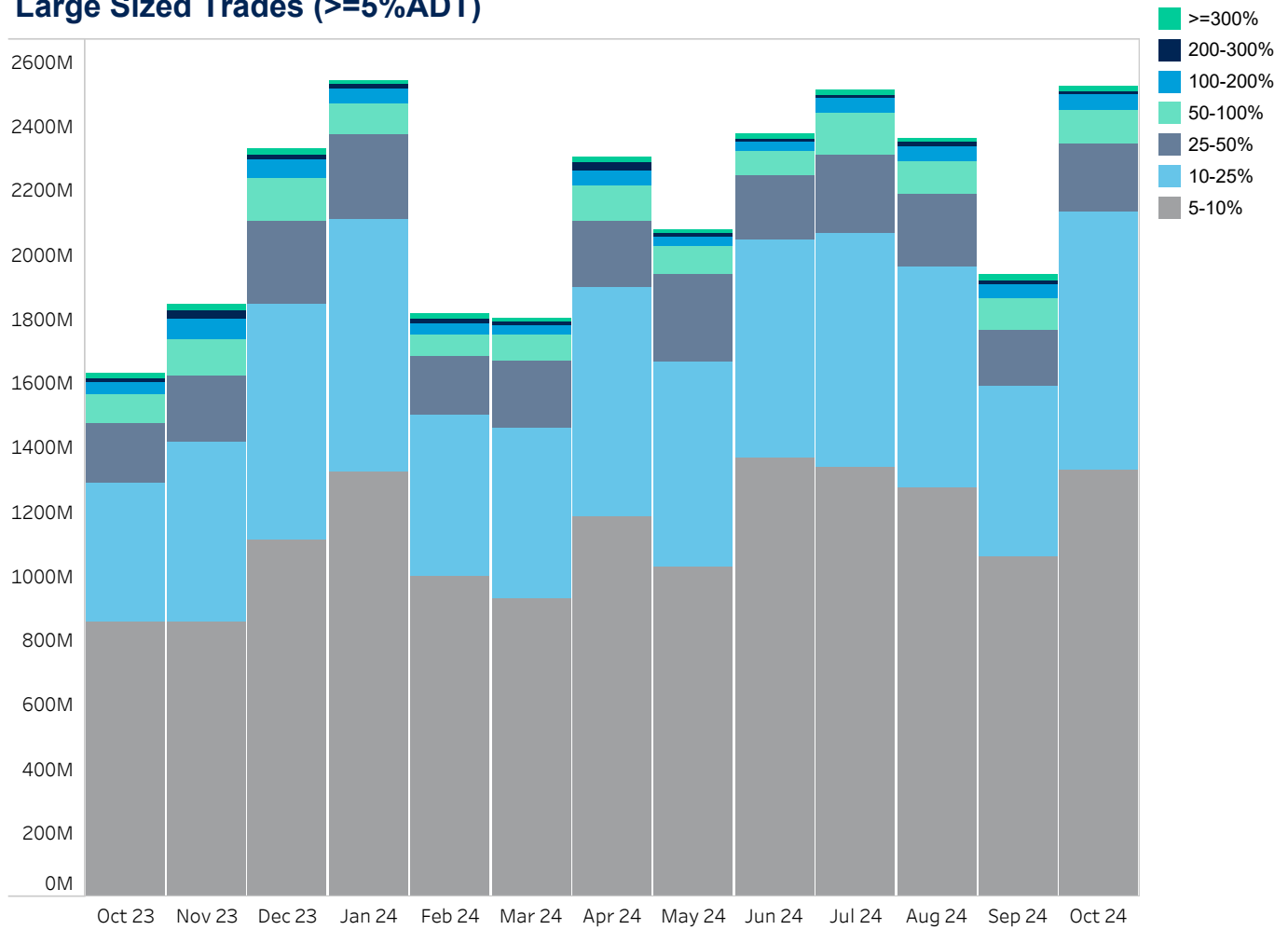
Source data: Virtu Financial

# South Korea

## Average Daily Turnover (Notional USD)



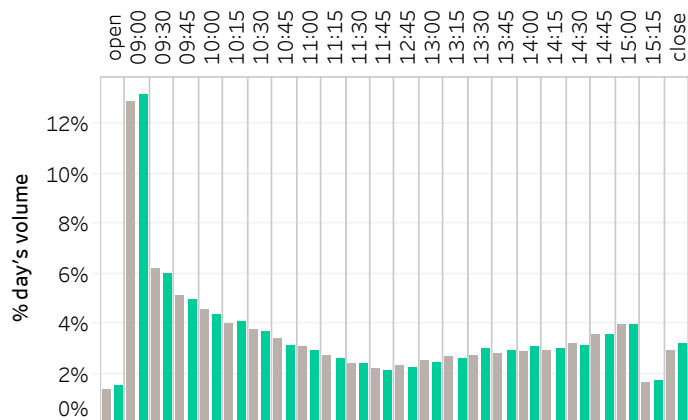
## Large Sized Trades (>=5%ADT)



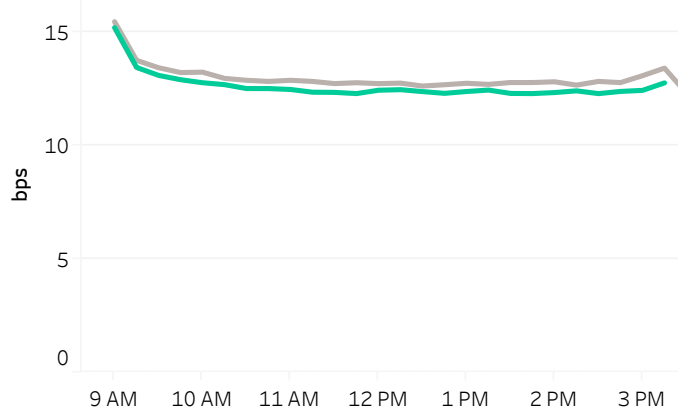
Source data: Virtu Financial

# Korea

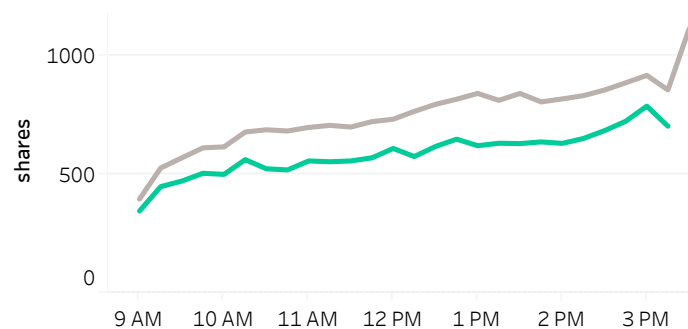
## Volume Curve



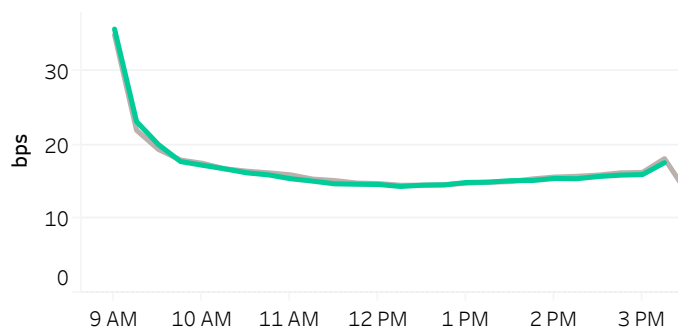
## Intraday Spread (bps)



## Intraday Quotesize (Shares)



## Intraday Volatility (bps)



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

## Spread Bps

	2023			2024									
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
FirstHalfHo..	14.5	14.5	14.3	15.1	15.6	14.3	14.5	14.0	14.6	14.5	15.4	15.0	14.5
MidDay	12.8	13.1	12.8	13.6	13.6	12.4	12.7	12.7	13.1	12.6	13.1	12.6	12.4
LastHalfHo..	13.2	13.4	13.3	13.8	13.9	12.6	12.8	12.8	13.2	12.7	13.4	12.9	12.5

## One Minute Volatility Bps

FirstHalfHo..	27.5	25.1	22.2	25.7	31.4	27.9	27.8	25.5	28.2	29.7	32.4	32.4	29.5
MidDay	14.6	15.1	14.5	15.7	16.4	15.7	15.6	14.9	15.8	16.0	16.5	16.3	15.4
LastHalfHo..	16.1	14.9	16.3	17.1	17.6	16.5	17.1	16.0	17.1	16.7	17.9	17.9	16.5

## Quotesize (shares)

FirstHalfHo..	443.8	457.6	535.9	445.6	465.2	451.8	457.9	501.0	506.3	437.7	415.4	386.3	393.8
MidDay	808.1	760.3	895.4	806.7	749.1	773.4	713.4	826.0	731.0	690.2	606.3	589.5	595.2
LastHalfHo..	911.6	920.9	1,010.4	871.0	901.7	952.1	900.4	1,036.0	983.1	850.4	730.8	719.0	748.0

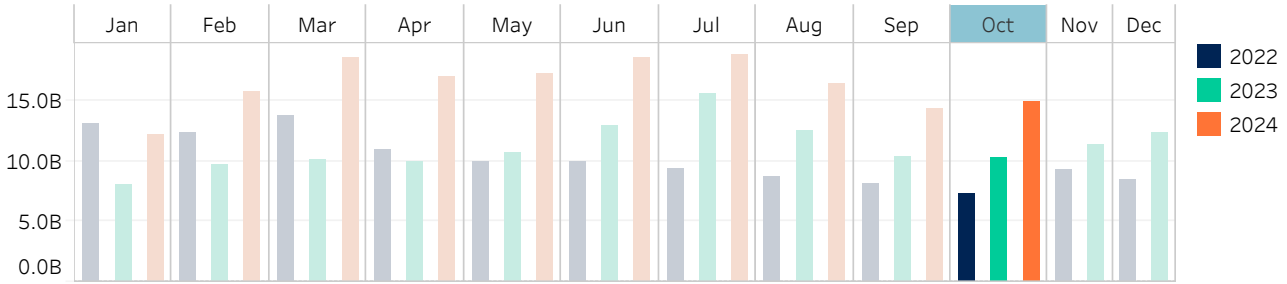
Median used for all metrics

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

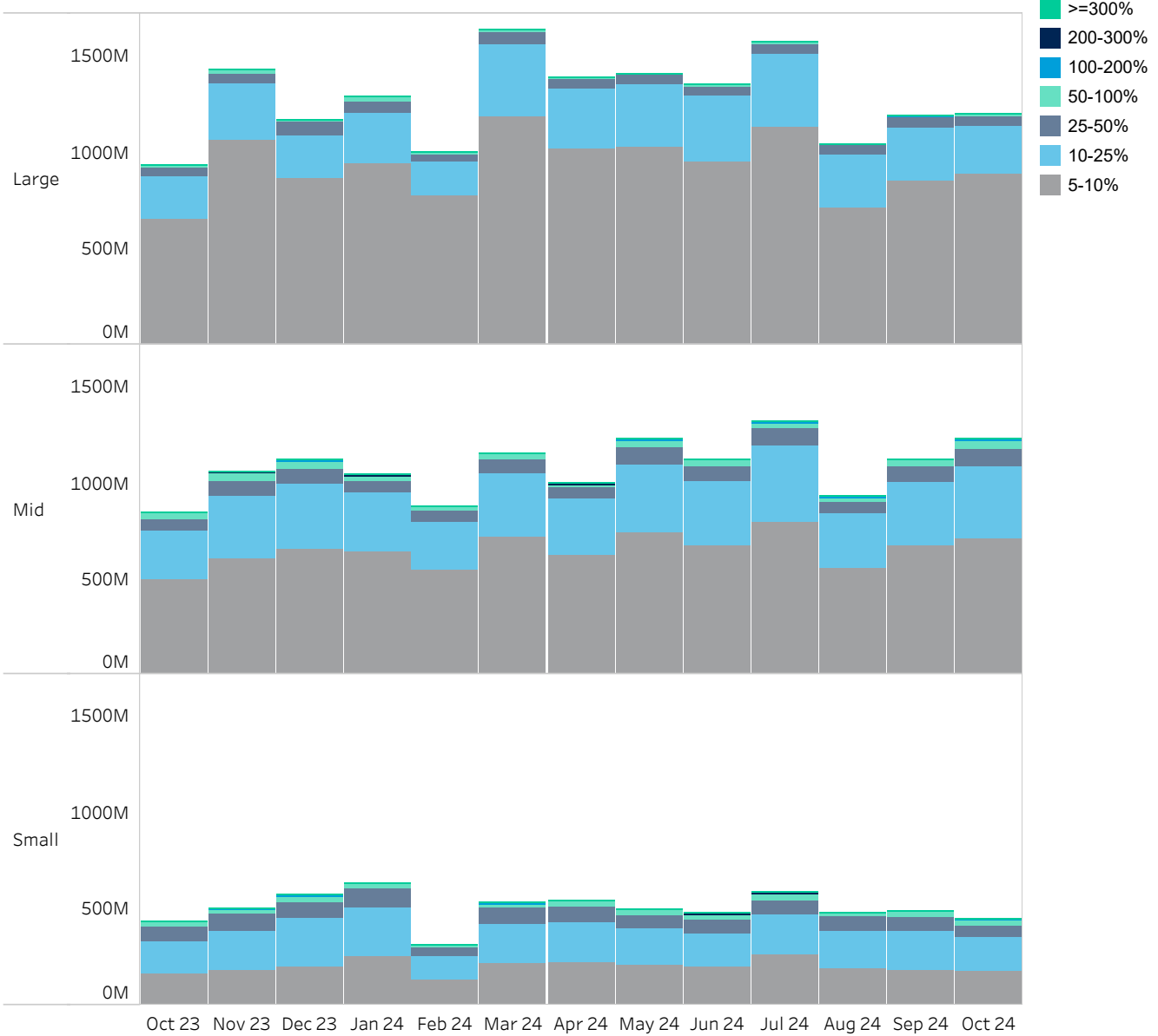
Source data: Virtu Financial

# Taiwan

## Average Daily Turnover (Notional USD)



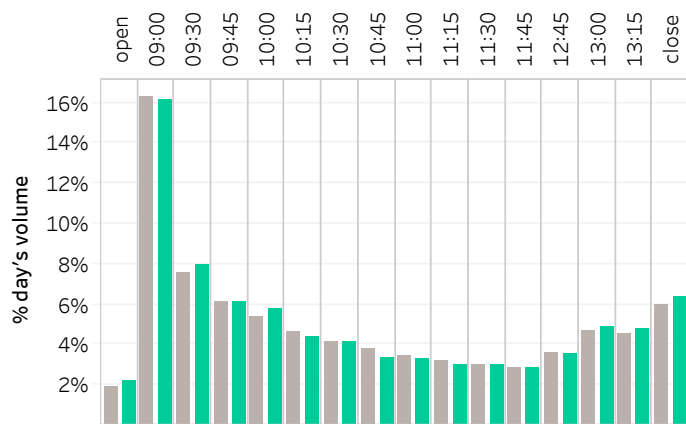
## Large Sized Trades (>=5%ADT)



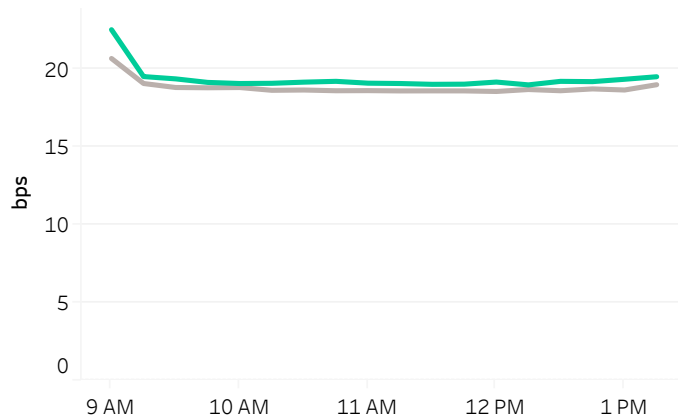
Source data: Virtu Financial

# Taiwan

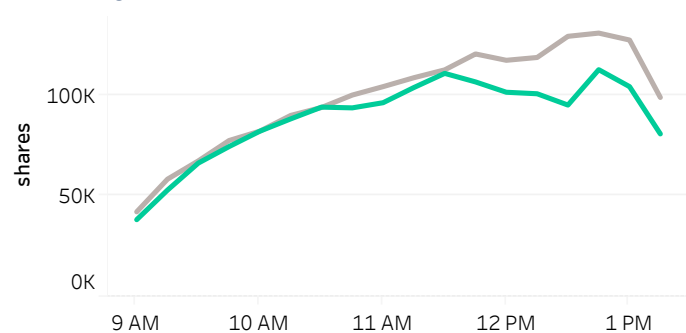
## Volume Curve



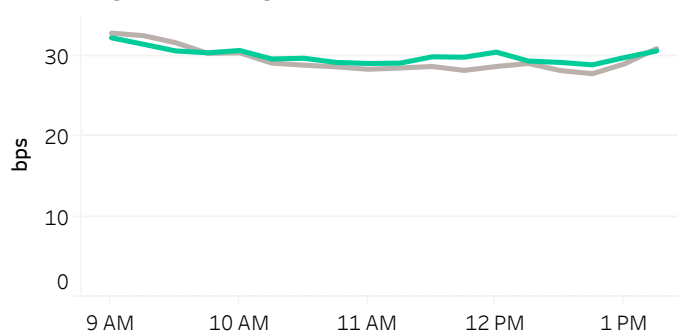
## Intraday Spread (bps)



## Intraday Quotesize (Shares)



## Intraday Volatility (bps)



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

## Spread Bps

	2023			2024									
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
FirstHalfHo..	20.3	19.6	19.5	19.6	19.5	19.5	19.8	19.6	19.9	20.2	21.2	20.3	20.9
MidDay	19.0	18.2	18.6	18.6	18.3	18.3	18.4	18.8	19.1	18.9	19.2	18.9	19.1
LastHalfHo..	19.1	18.6	18.7	18.8	18.3	18.6	18.6	18.9	19.2	19.1	19.2	19.4	19.5

## One Minute Volatility Bps

FirstHalfHo..	33.3	29.9	30.6	32.8	31.3	32.7	32.9	34.8	34.3	35.0	37.1	33.3	32.0
MidDay	31.1	26.4	27.8	29.2	28.6	28.9	28.7	28.6	28.6	31.0	31.2	29.7	30.1
LastHalfHo..	31.5	27.6	28.1	30.3	28.7	30.4	29.5	30.3	29.5	31.4	32.2	31.6	31.1

## Quotesize (shares)

FirstHalfHo..	46,915	50,161	52,263	57,046	48,244	57,635	48,604	56,638	56,775	50,128	40,566	42,528	43,251
MidDay	109,280	111,917	104,185	124,365	117,027	110,699	96,467	113,228	104,741	88,207	77,955	89,523	98,353
LastHalfHo..	109,997	124,934	124,186	118,507	116,047	117,591	108,108	123,357	120,731	100,832	83,161	82,862	92,805

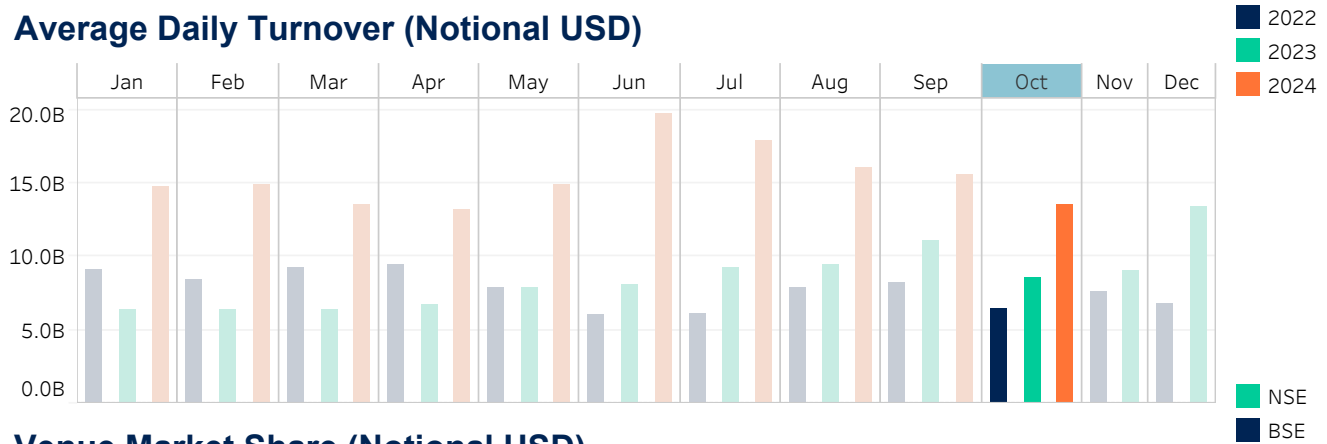
Median used for all metrics

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

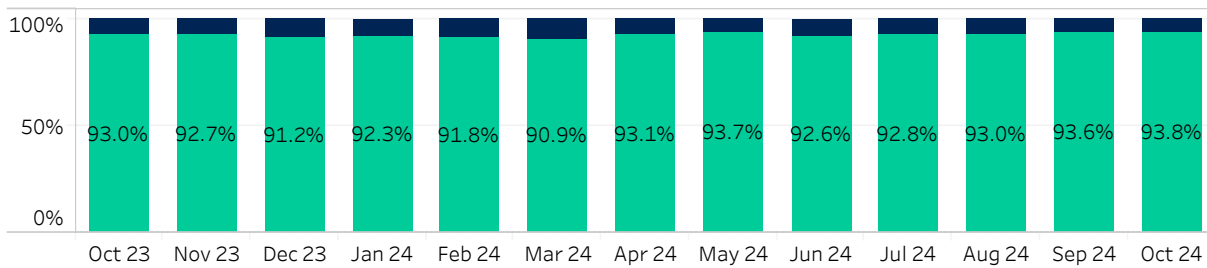
Source data: Virtu Financial

# India

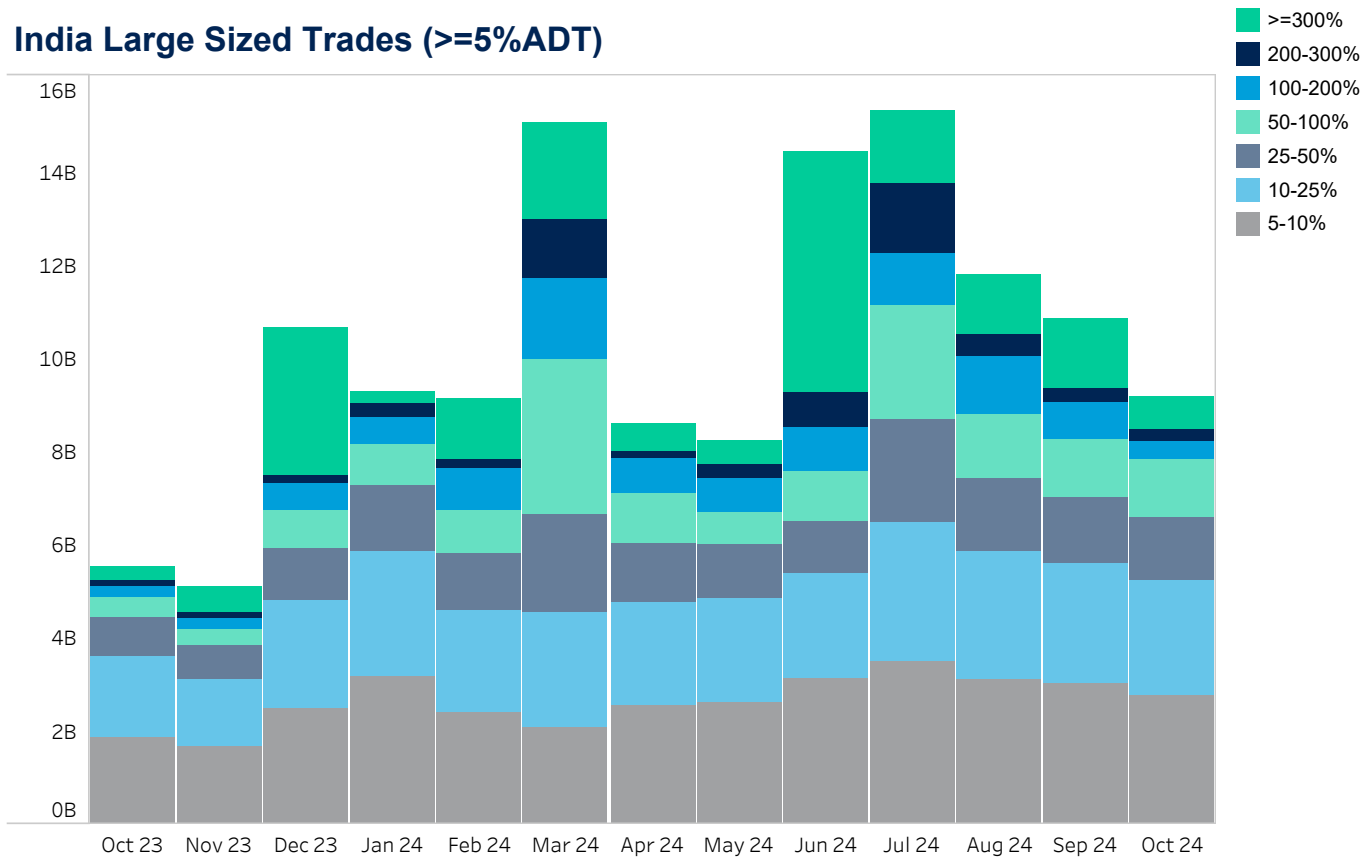
## Average Daily Turnover (Notional USD)



## Venue Market Share (Notional USD)



## India Large Sized Trades (>=5%ADT)

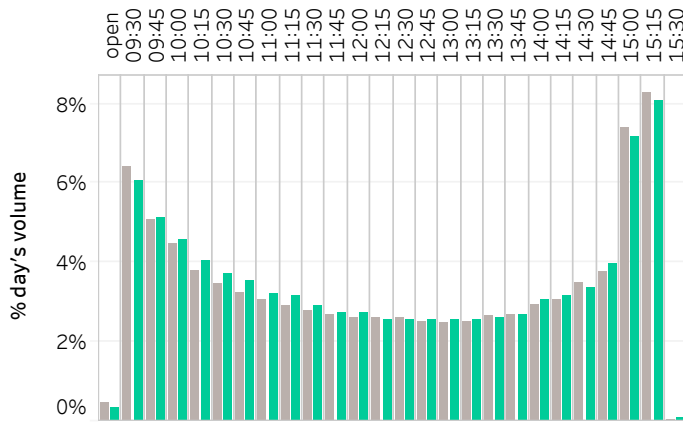


Source data: Virtu Financial

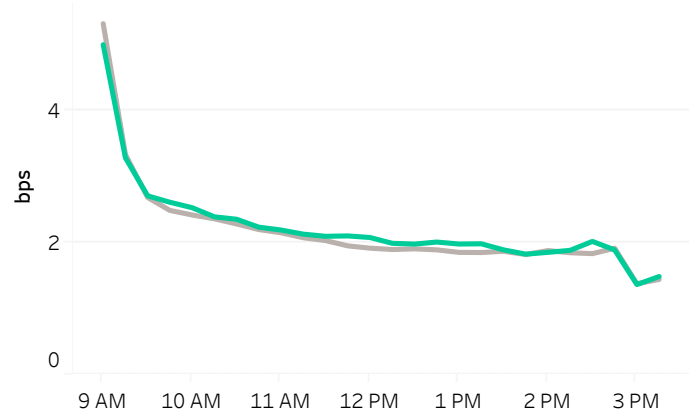


# India

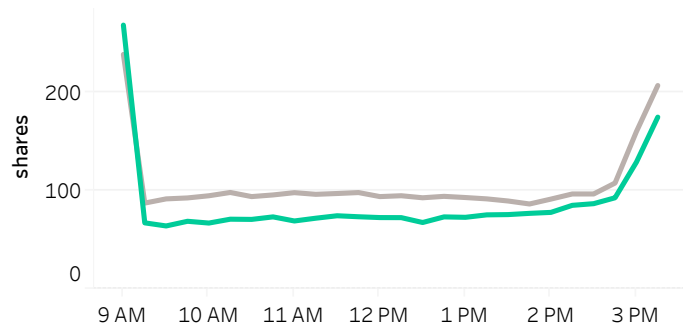
## Volume Curve



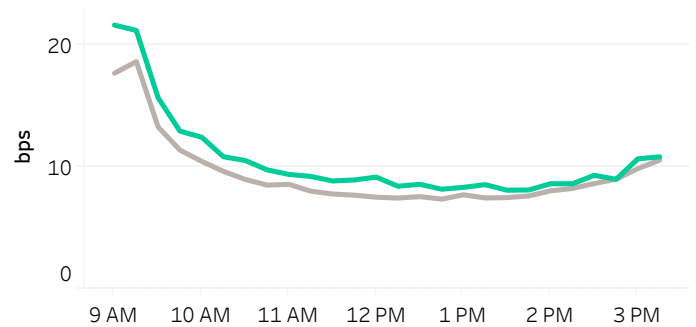
## Intraday Spread (bps)



## Intraday Quotesize (Shares)



## Intraday Volatility (bps)



Rolling 12 Months Avg (Brown) | October 2024 (Green)

## Spread Bps

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

## One Minute Volatility Bps

FirstHalfHo..	17.3	14.7	17.9	19.6	19.6	19.5	19.6	20.1	22.5	19.1	17.4	16.7	20.8
MidDay	7.6	7.1	8.0	8.7	9.1	8.9	8.4	8.9	9.4	8.5	8.0	7.9	9.0
LastHalfHo..	9.5	8.7	10.5	10.8	11.2	12.1	10.6	11.6	11.6	10.3	10.3	10.5	10.9

## Quotesize (shares)

FirstHalfHo..	112.5	108.1	118.4	102.2	90.9	91.8	88.1	85.8	92.9	89.2	78.4	82.3	69.8
MidDay	108.5	116.7	118.3	99.1	90.4	91.0	94.1	90.6	93.3	85.5	80.5	86.0	72.7
LastHalfHo..	197.4	229.1	196.5	182.0	169.3	188.1	191.5	147.4	174.9	158.2	157.2	189.6	152.4

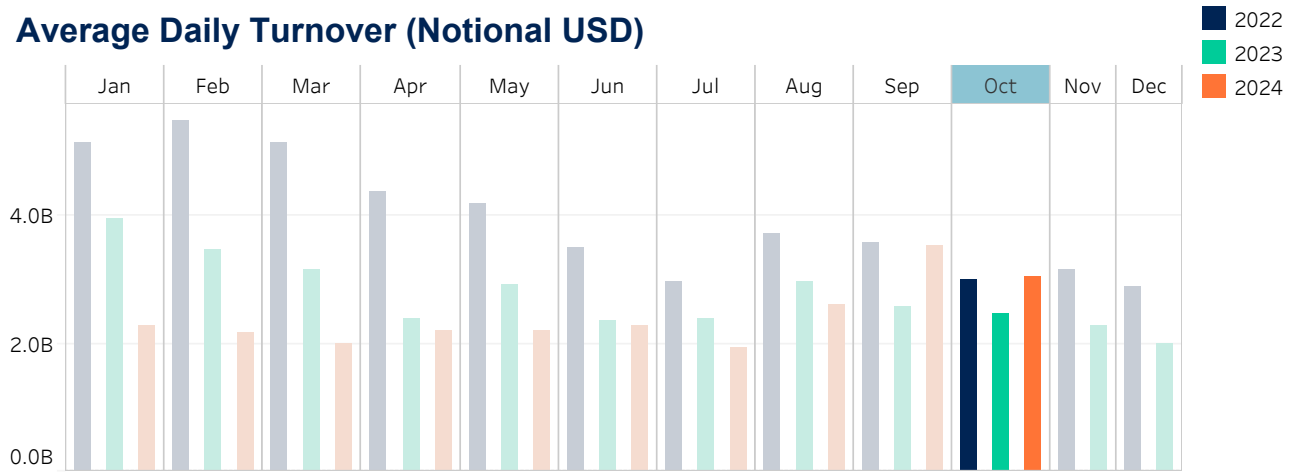
Median used for all metrics

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

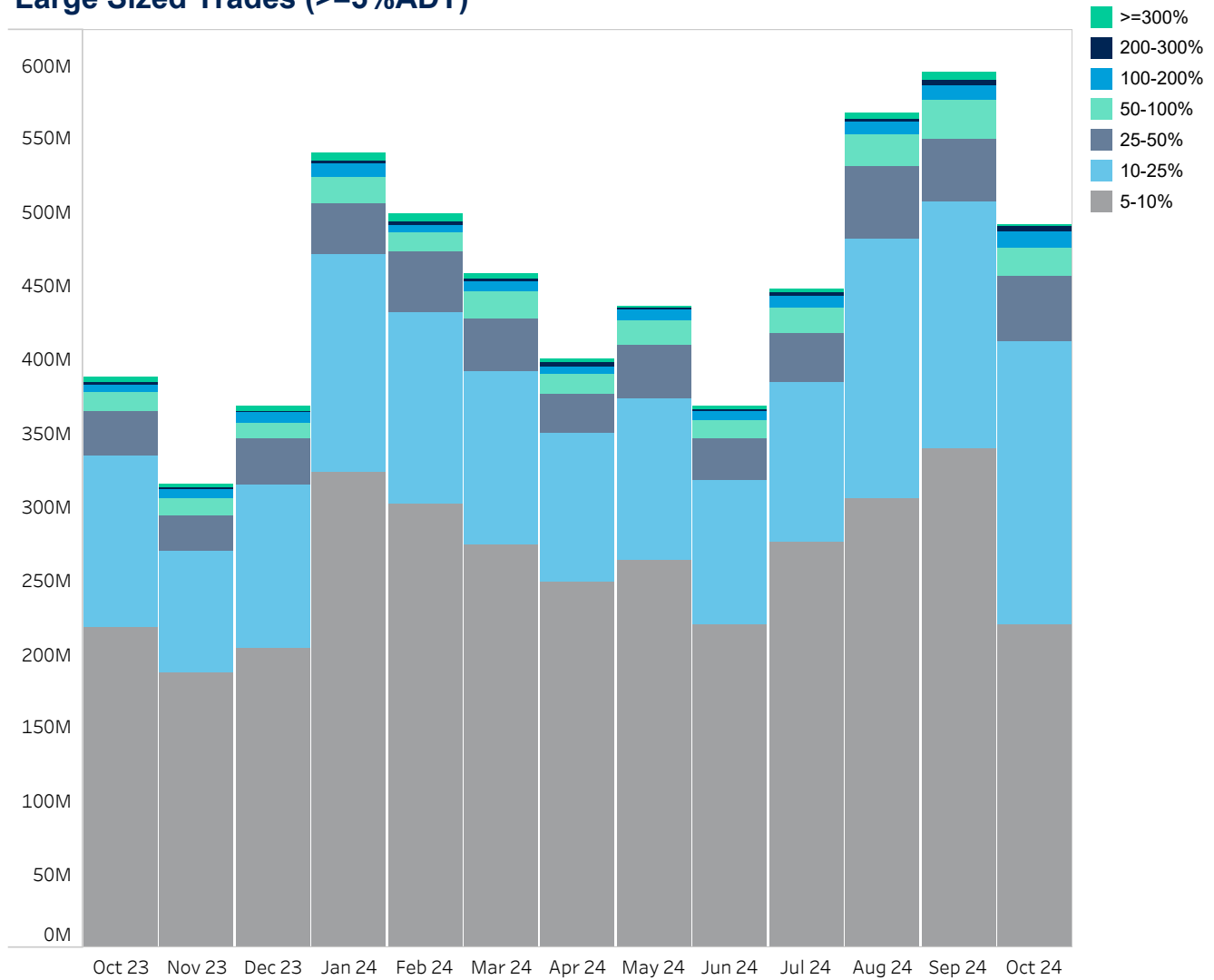
Source data: Virtu Financial

# Thailand

## Average Daily Turnover (Notional USD)



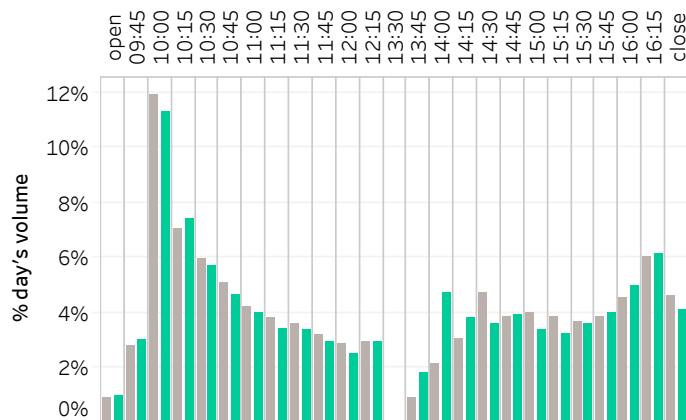
## Large Sized Trades (>=5%ADT)



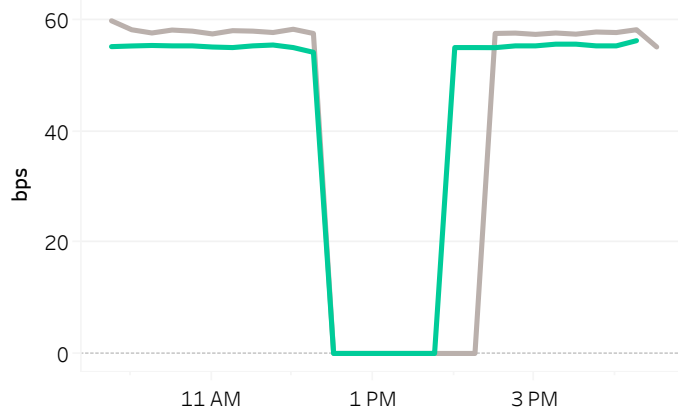
Source data: Virtu Financial

# Thailand

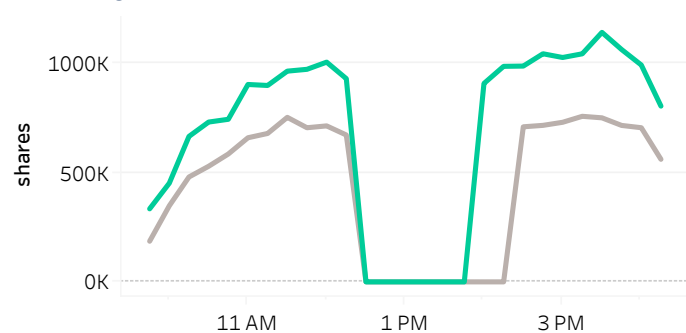
## Volume Curve



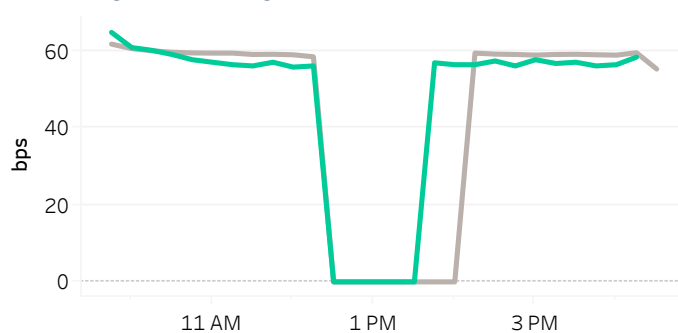
## Intraday Spread (bps)



## Intraday Quotesize (Shares)



## Intraday Volatility (bps)



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

## Spread Bps

	2023			2024									
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
FirstHalfHo..	64.3	62.7	64.0	61.2	60.1	58.8	60.0	58.7	58.6	57.6	58.9	55.1	55.1
MidDay	59.3	58.3	59.2	57.6	57.0	56.2	58.0	57.6	57.3	56.7	58.3	55.7	55.4
LastHalfHo..	59.3	59.0	51.4	58.3	57.3	56.3	58.0	58.0	57.6	57.0	58.6	55.4	55.7

## One Minute Volatility Bps

FirstHalfHo..	64.3	63.5	63.8	61.2	62.3	60.4	60.8	61.5	61.5	61.5	64.3	61.5	63.1
MidDay	60.4	60.4	60.4	59.3	58.1	57.6	58.8	58.8	58.1	57.8	60.1	58.0	56.7
LastHalfHo..	60.8	60.4	51.4	59.3	58.1	57.6	59.0	59.0	58.3	58.0	60.1	57.3	57.6

## Quotesize (shares)

FirstHalfHo..	146,123	160,913	162,686	190,460	187,498	201,086	203,810	251,426	207,077	251,215	231,332	343,448	328,594
MidDay	485,941	528,048	602,762	686,060	674,355	709,700	770,373	786,167	647,182	795,456	834,632	993,639	950,210
LastHalfHo..	465,624	501,806	371,650	597,307	602,884	611,971	624,177	686,745	575,749	734,601	699,140	886,415	835,181

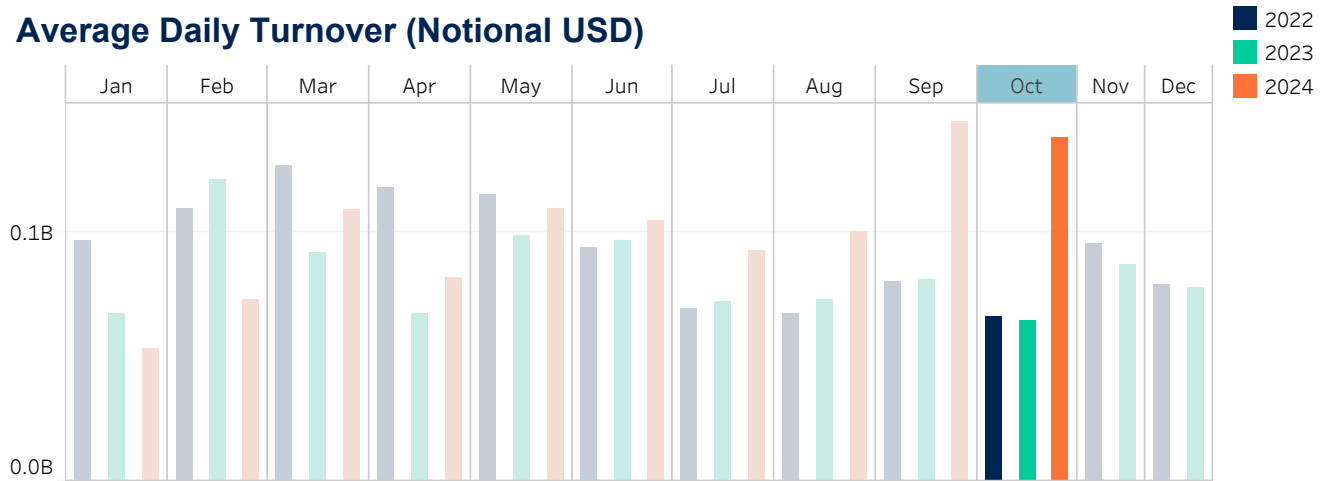
Median used for all metrics

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

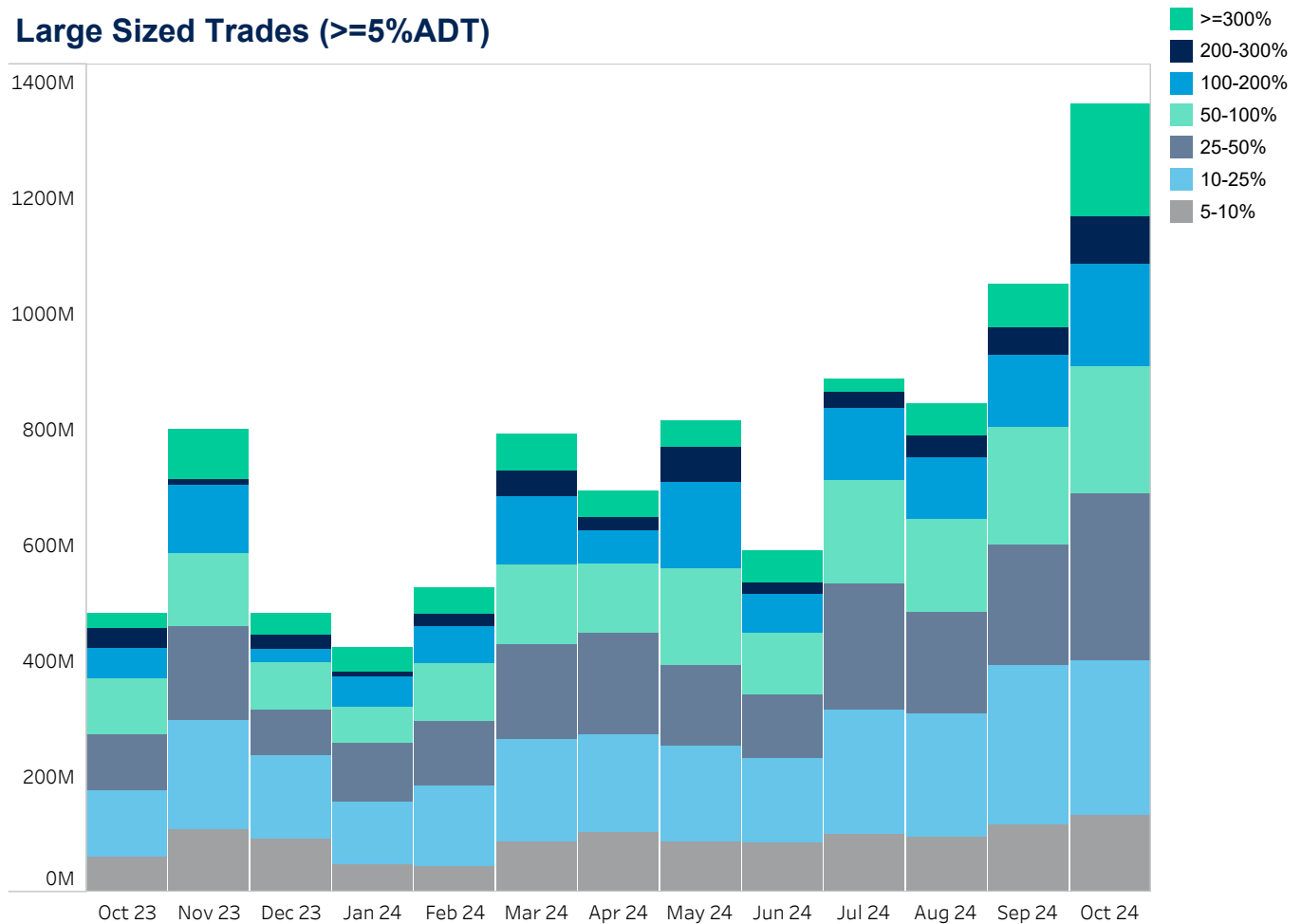
Source data: Virtu Financial

# New Zealand

## Average Daily Turnover (Notional USD)



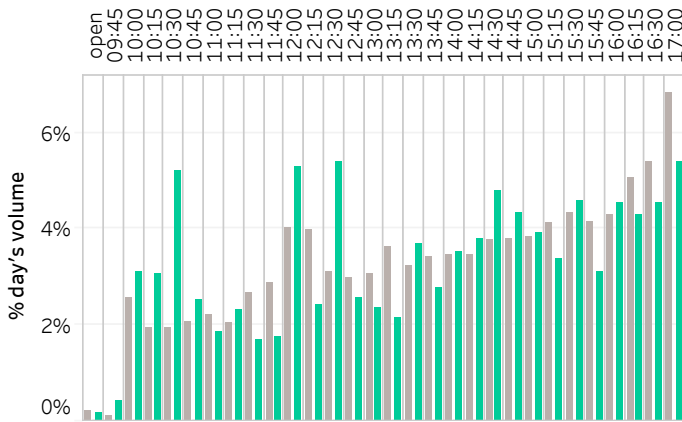
## Large Sized Trades (>=5%ADT)



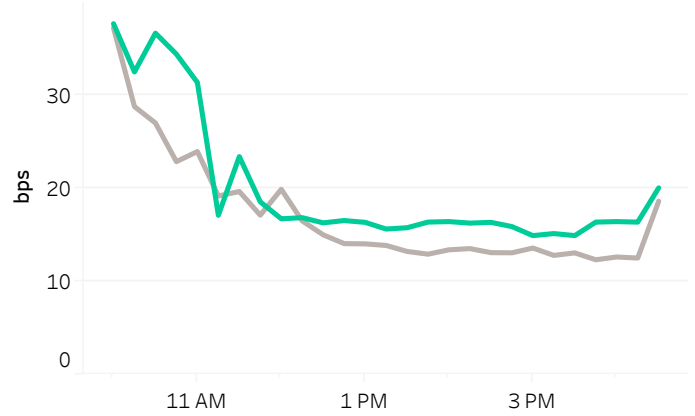
Source data: Virtu Financial

# New Zealand

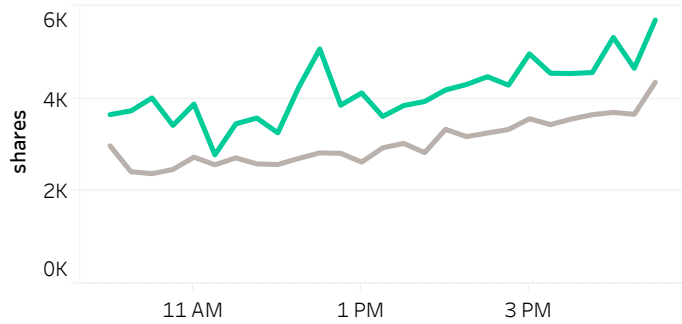
## Volume Curve



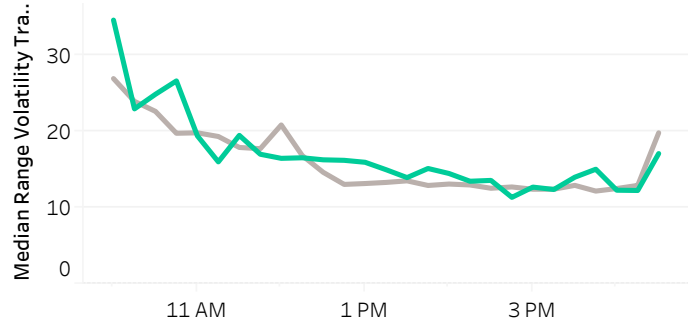
## Intraday Spread (bps)



## Intraday Quotesize (Shares)



## Intraday Volatility (bps)



■ Rolling 12 Months Avg ■ October 2024

## Spread Bps

	2023			2024									
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
FirstHalfHo..	28.2	28.9	35.4	37.0	35.1	31.2	34.3	26.1	30.5	26.2	32.3	39.9	34.0
MidDay	14.7	14.3	16.7	17.1	19.6	12.7	12.5	11.6	12.5	13.0	15.2	15.3	16.4
LastHalfHo..	19.7	18.1	18.6	22.2	22.5	17.1	15.6	13.0	15.8	15.9	22.0	23.6	20.3

## One Minute Volatility Bps

FirstHalfHo..	23.1	19.9	19.4	29.1	28.3	23.8	26.1	24.6	26.5	24.0	24.5	29.7	29.9
MidDay	15.0	14.6	16.4	17.2	19.2	12.3	12.1	11.7	13.0	13.1	14.3	13.1	14.6
LastHalfHo..	20.8	19.6	19.3	22.5	23.4	20.4	17.3	15.6	21.4	21.4	22.8	21.1	19.0

## Quotesize (shares)

FirstHalfHo..	3,043	2,397	2,093	2,584	3,199	2,413	2,650	2,904	2,527	2,215	2,957	3,170	3,809
MidDay	3,456	2,624	2,939	2,784	3,414	2,746	2,757	2,885	2,903	2,753	3,312	4,535	4,301
LastHalfHo..	4,171	4,335	4,150	4,284	4,516	4,518	3,911	4,530	4,644	4,072	5,195	6,090	5,817

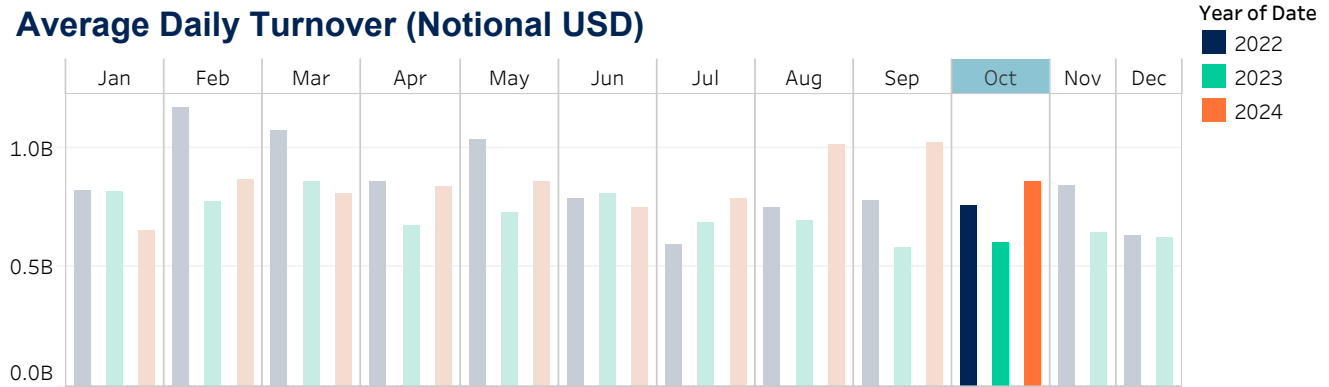
Median used for all metrics

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

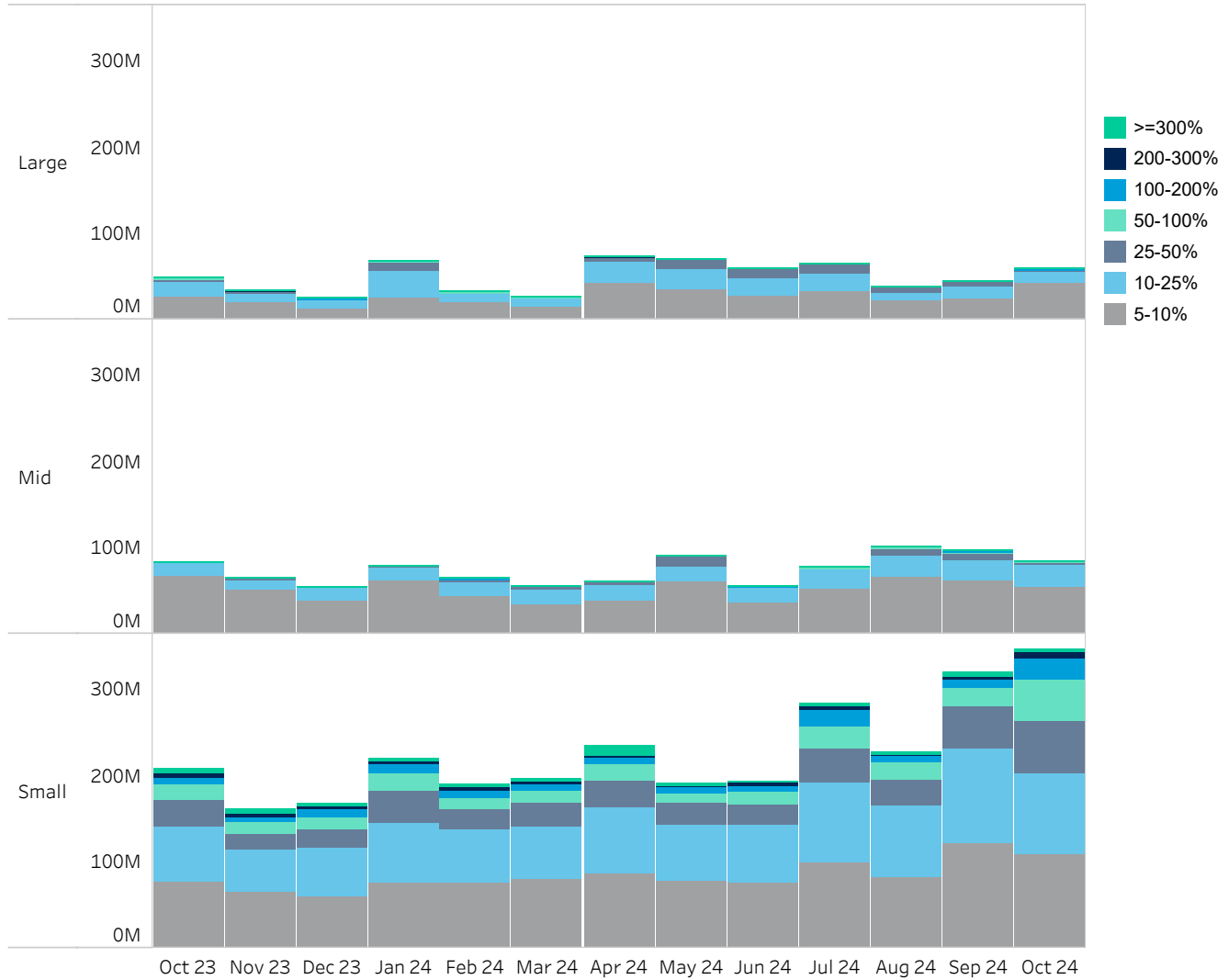
Source data: Virtu Financial

# Singapore

## Average Daily Turnover (Notional USD)



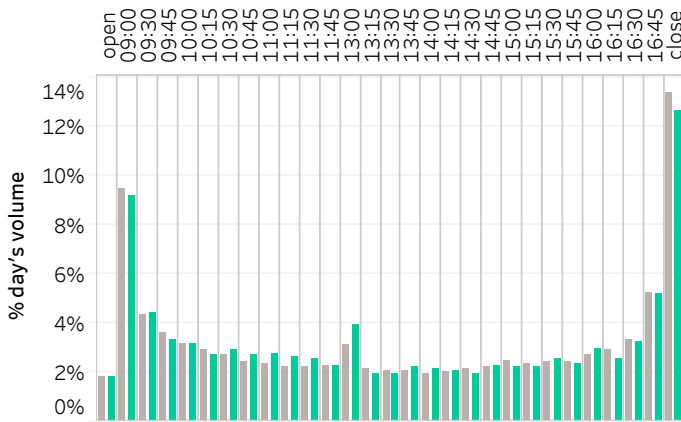
## Large Sized Trades (>=5%ADT)



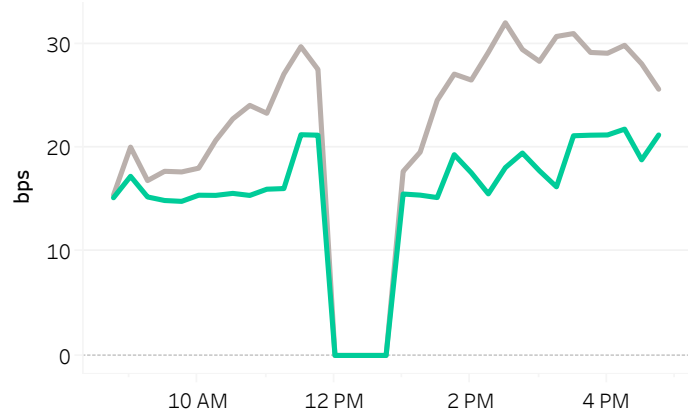
Source data: Virtu Financial

# Singapore

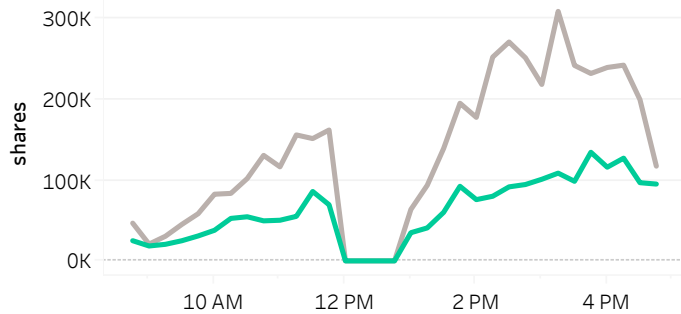
## Volume Curve



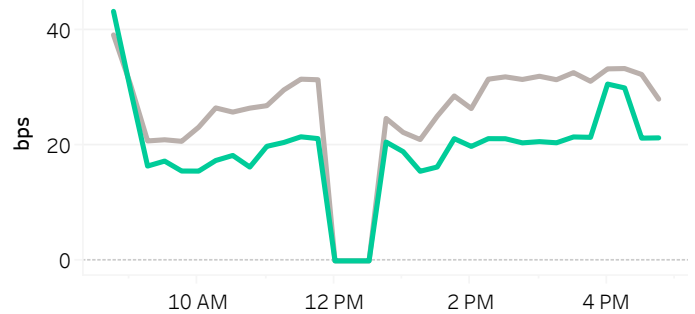
## Intraday Spread (bps)



## Intraday Quotesize (Shares)



## Intraday Volatility (bps)



Rolling 12 Months Avg October 2024

## Spread Bps

	2023			2024									
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
FirstHalfHo..	15.8	16.8	15.1	15.0	15.0	18.7	15.6	14.5	14.8	14.4	16.9	16.1	15.2
MidDay	28.5	26.5	28.9	26.8	18.1	30.0	36.7	19.2	24.7	22.8	21.3	20.5	15.7
LastHalfHo..	29.5	27.1	28.0	29.7	26.4	29.4	28.6	24.4	24.7	23.5	22.5	20.5	19.9

## One Minute Volatility Bps

FirstHalfHo..	50.6	52.8	40.9	41.6	42.5	39.9	52.1	37.7	39.0	33.8	44.9	46.2	43.0
MidDay	31.3	27.3	29.1	28.8	26.3	34.2	36.9	24.3	24.8	27.0	22.4	22.2	20.5
LastHalfHo..	32.6	27.9	29.4	32.6	30.4	30.1	34.1	29.7	30.0	31.8	31.5	21.8	21.4

## Quotesize (shares)

FirstHalfHo..	50,518	72,786	53,345	55,164	68,837	35,573	61,123	43,399	46,845	37,261	30,750	42,101	25,511
MidDay	239,708	89,777	193,459	181,018	116,322	187,792	374,365	110,102	148,668	152,415	103,521	128,939	69,228
LastHalfHo..	226,408	119,166	139,335	199,052	164,279	161,581	161,143	143,389	182,647	158,047	135,215	125,318	93,446

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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