

Global Cost Review

Q4 2020

Results as of 01/21/2021



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Average Regional Commission by Market Capitalization

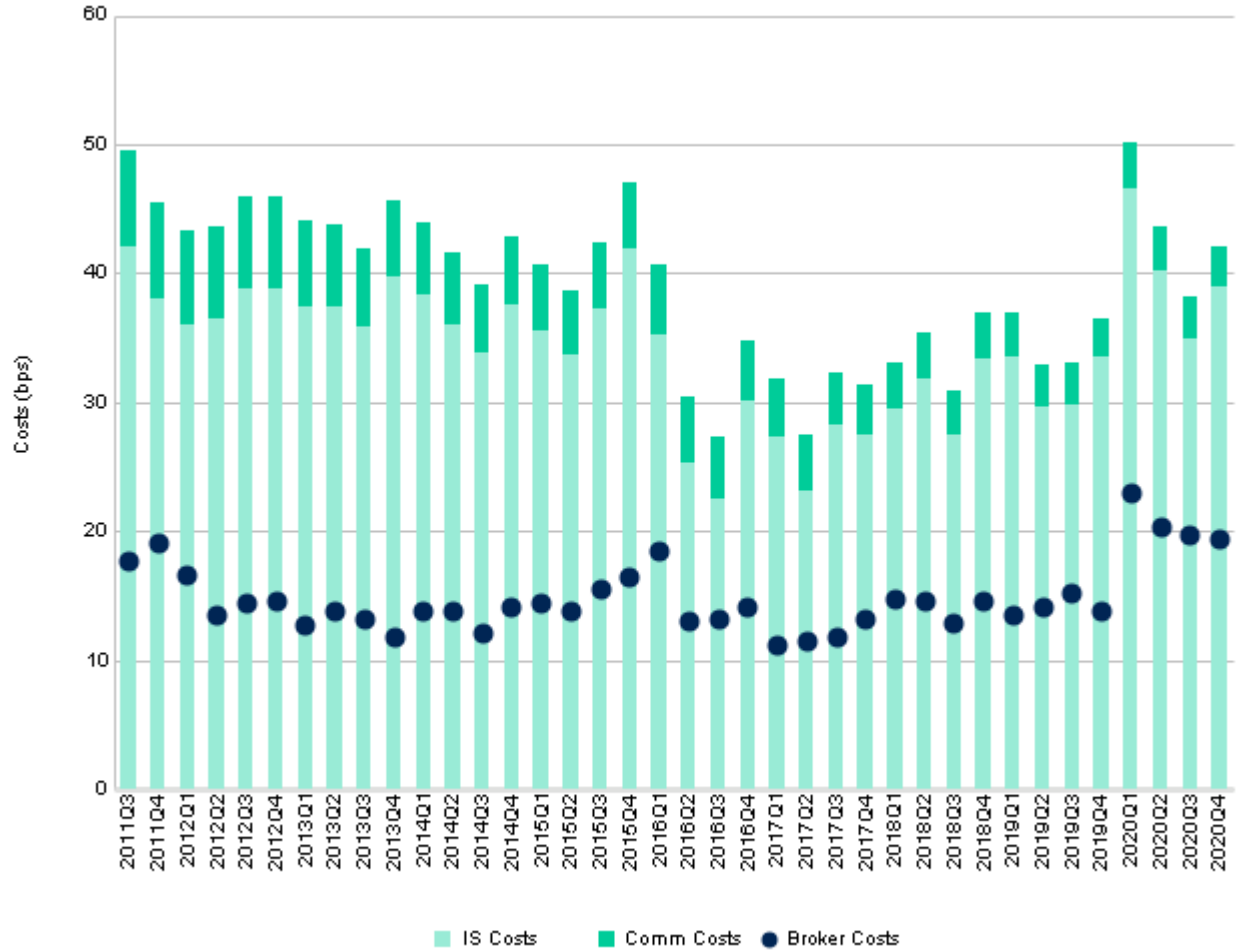
Region		Avg. Commission (BPS)				
		2020Q4	2020Q3	2020Q2	2020Q1	1Q20-4Q20
United States	Micro Cap	18.4	13.0	11.2	15.8	13.5
	Small Cap	11.2	9.8	11.6	13.2	11.6
	Mid Cap	5.0	5.3	5.9	6.3	5.7
	Large Cap	2.5	2.7	2.9	3.0	2.8
	Total	3.0	3.2	3.4	3.5	3.3
United Kingdom	Micro Cap	7.0	6.5	8.1	7.8	7.4
	Small Cap	6.6	7.2	7.0	7.3	7.1
	Mid Cap	5.3	5.2	5.0	5.5	5.3
	Large Cap	4.1	4.4	4.4	4.7	4.5
	Total	4.3	4.6	4.6	4.9	4.7
Japan	Micro Cap	3.5	3.7	3.5	4.0	3.6
	Small Cap	3.3	3.4	4.1	4.3	3.8
	Mid Cap	3.7	4.0	4.2	4.3	4.1
	Large Cap	4.0	4.2	4.2	4.5	4.3
	Total	3.9	4.1	4.2	4.5	4.2
Canada	Micro Cap	15.3	13.2	14.1	12.5	13.8
	Small Cap	16.8	16.2	15.9	16.3	16.3
	Mid Cap	9.4	8.8	9.7	10.7	9.8
	Large Cap	4.7	4.8	4.8	5.2	4.9
	Total	6.4	6.4	6.5	6.8	6.6
Europe ex UK	Micro Cap	5.4	5.7	6.1	6.3	6.0
	Small Cap	5.1	5.2	5.6	5.8	5.5
	Mid Cap	4.6	4.6	4.9	5.0	4.8
	Large Cap	4.1	4.4	4.3	4.7	4.5
	Total	4.1	4.4	4.4	4.8	4.5
Asia Pacific ex Japan	Micro Cap	7.6	6.3	8.6	8.5	7.7
	Small Cap	7.3	6.4	6.8	7.1	6.9
	Mid Cap	5.7	6.0	6.5	6.7	6.3
	Large Cap	5.5	5.4	5.9	6.3	5.8
	Total	5.5	5.5	6.1	6.4	5.9
Emerging Markets	Micro Cap	9.8	9.3	9.8	9.5	9.6
	Small Cap	7.5	7.5	7.6	8.3	7.7
	Mid Cap	7.4	7.3	7.9	8.4	7.8
	Large Cap	7.2	7.4	8.3	8.5	7.8
	Total	7.2	7.4	8.2	8.5	7.8

Region		Avg. Commission (BPS)				
		2020Q4	2020Q3	2020Q2	2020Q1	1Q20-4Q20
Emerging Asia	Micro Cap	9.9	9.2	9.4	9.3	9.4
	Small Cap	7.3	7.3	7.3	8.1	7.5
	Mid Cap	6.8	6.8	7.2	7.8	7.1
	Large Cap	6.7	7.0	7.8	8.1	7.4
	Total	6.7	7.0	7.6	8.0	7.3
Emerging Europe	Micro Cap	6.6	6.5	7.9	7.4	7.3
	Small Cap	6.3	7.3	7.4	7.3	7.1
	Mid Cap	8.1	8.1	8.4	8.7	8.3
	Large Cap	8.1	6.7	7.1	8.0	7.6
	Total	8.0	7.4	7.8	8.3	7.9
Latin America	Micro Cap	6.0	5.9	10.9	7.0	7.9
	Small Cap	7.9	7.6	8.5	8.6	8.2
	Mid Cap	8.2	8.2	9.0	9.4	8.8
	Large Cap	8.4	8.2	9.1	9.6	8.9
	Total	8.4	8.2	9.1	9.5	8.9
Middle East and Africa	Micro Cap	16.4	12.8	13.6	16.1	14.2
	Small Cap	9.3	9.5	9.7	10.5	9.7
	Mid Cap	9.9	9.4	10.5	10.9	10.2
	Large Cap	10.5	10.8	11.5	10.9	10.9
	Total	10.3	10.4	11.1	10.9	10.7

Region		Avg. Commission (CPS)				
		2020Q4	2020Q3	2020Q2	2020Q1	1Q20-4Q20
United States	Micro Cap	0.7	0.6	0.7	0.8	0.7
	Small Cap	1.0	0.9	0.8	1.0	0.9
	Mid Cap	1.3	1.2	1.2	1.4	1.3
	Large Cap	1.6	1.6	1.5	1.7	1.6
	Total	1.4	1.4	1.4	1.6	1.5
Canada	Micro Cap	1.0	0.6	0.4	0.5	0.6
	Small Cap	1.0	0.9	0.7	0.8	0.9
	Mid Cap	1.3	1.2	1.1	1.2	1.2
	Large Cap	1.5	1.5	1.4	1.6	1.5
	Total	1.4	1.2	1.2	1.3	1.3

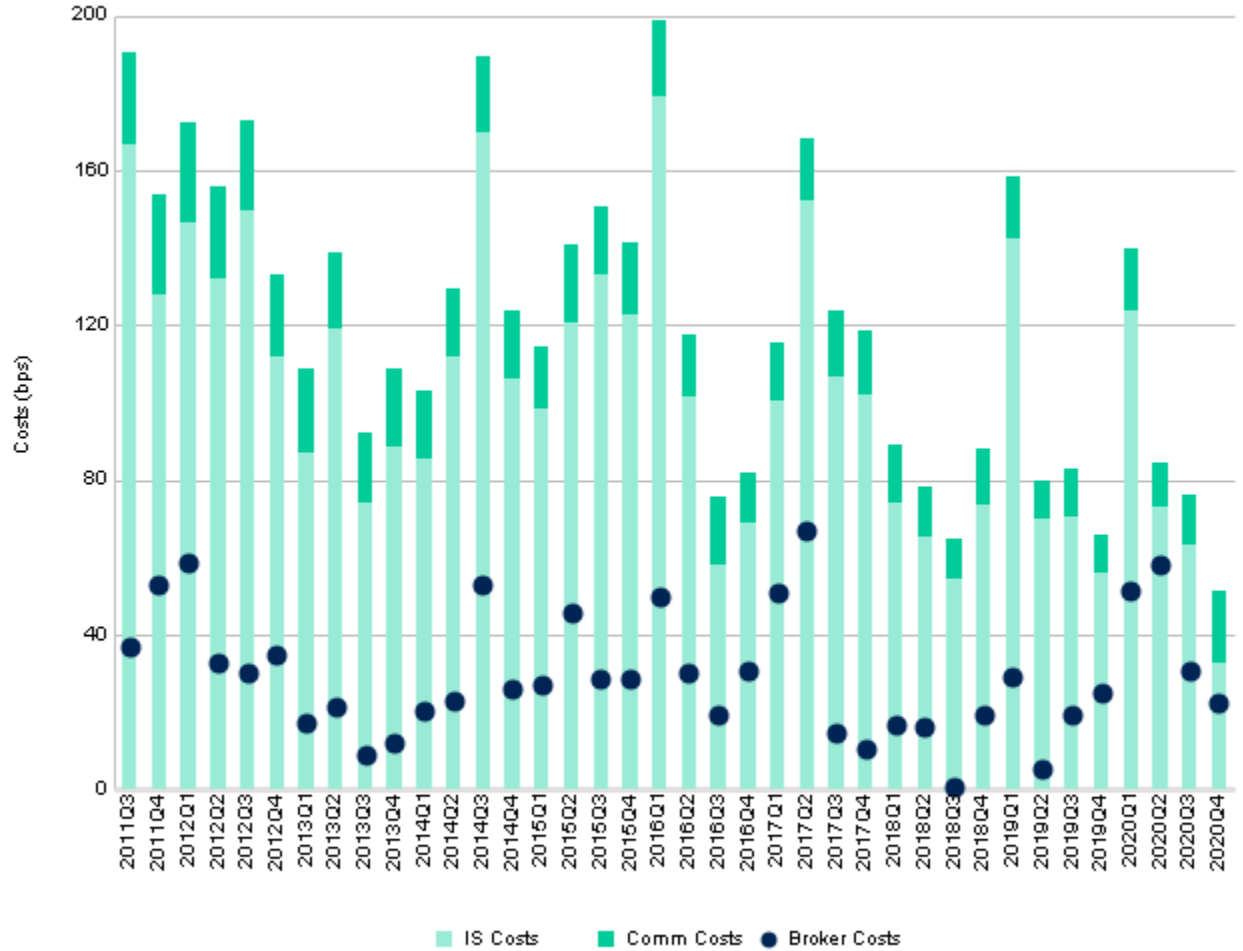
United States (bps)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2011Q3	42.1	7.5	49.6	17.7
2011Q4	38.0	7.5	45.5	19.1
2012Q1	36.0	7.3	43.2	16.6
2012Q2	36.5	7.2	43.7	13.6
2012Q3	38.9	7.1	46.1	14.5
2012Q4	38.8	7.2	45.9	14.6
2013Q1	37.5	6.6	44.1	12.7
2013Q2	37.5	6.3	43.7	13.8
2013Q3	35.9	6.1	42.0	13.3
2013Q4	39.8	5.8	45.5	11.9
2014Q1	38.3	5.6	43.9	13.8
2014Q2	36.1	5.6	41.7	13.8
2014Q3	33.8	5.4	39.2	12.1
2014Q4	37.6	5.3	42.9	14.2
2015Q1	35.6	5.0	40.6	14.5
2015Q2	33.7	5.1	38.7	13.8
2015Q3	37.3	5.1	42.4	15.5
2015Q4	42.0	5.1	47.1	16.5
2016Q1	35.3	5.3	40.7	18.6
2016Q2	25.4	5.1	30.5	13.0
2016Q3	22.5	4.8	27.4	13.2
2016Q4	30.1	4.7	34.8	14.1
2017Q1	27.4	4.4	31.9	11.2
2017Q2	23.2	4.4	27.5	11.5
2017Q3	28.3	4.0	32.3	11.9
2017Q4	27.5	4.0	31.4	13.3
2018Q1	29.6	3.5	33.1	14.8
2018Q2	31.9	3.5	35.4	14.7
2018Q3	27.5	3.4	30.9	12.9
2018Q4	33.5	3.5	37.0	14.6
2019Q1	33.5	3.4	36.9	13.6
2019Q2	29.7	3.2	33.0	14.2
2019Q3	29.8	3.2	33.0	15.3
2019Q4	33.5	3.0	36.5	13.8
2020Q1	46.6	3.5	50.1	23.0
2020Q2	40.2	3.4	43.6	20.4
2020Q3	35.0	3.2	38.1	19.7
2020Q4	39.1	3.0	42.1	19.5



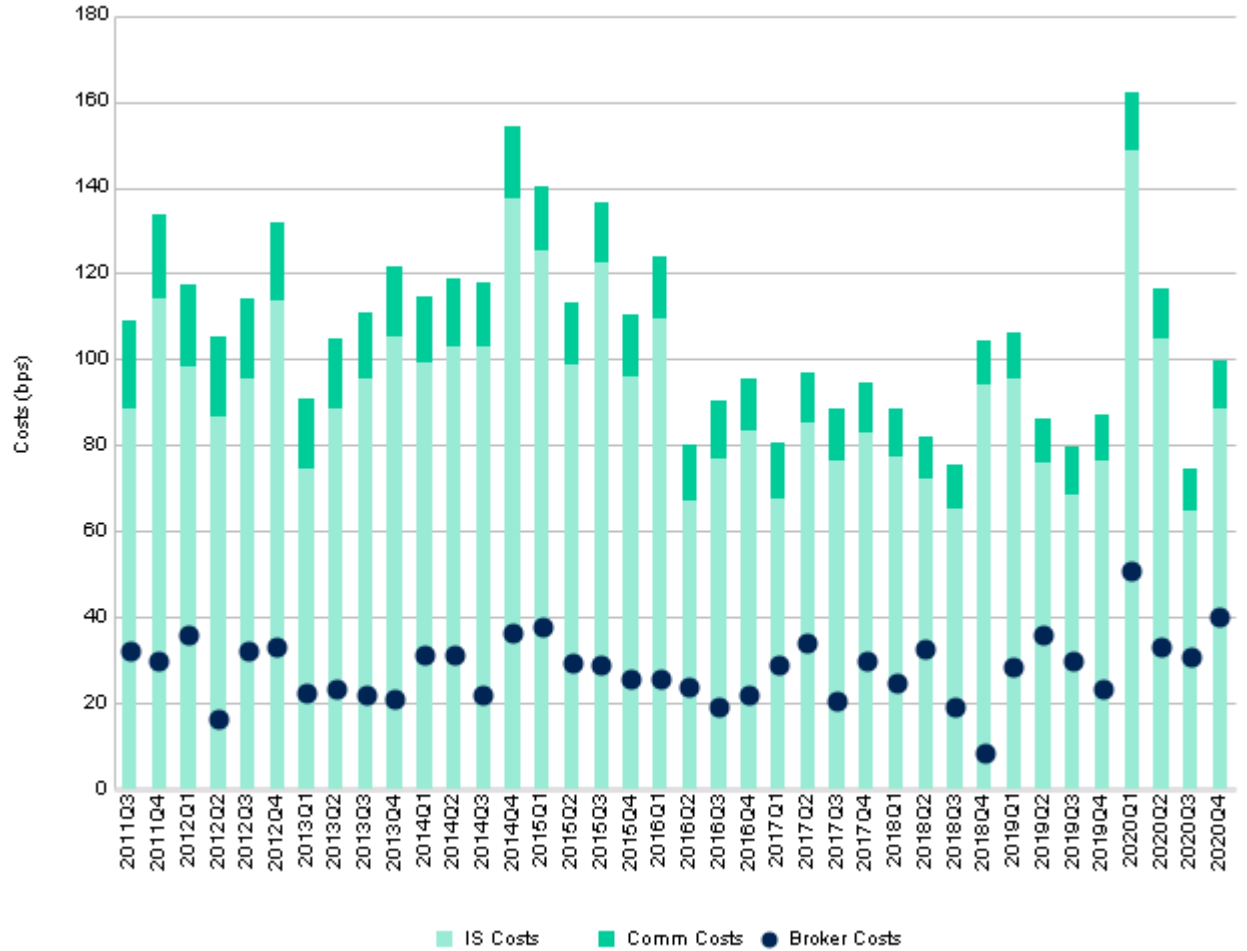
United States - Micro Cap (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2011Q3	166.9	23.8	190.7	37.0
2011Q4	128.1	25.5	153.7	52.7
2012Q1	146.7	25.7	172.4	58.7
2012Q2	132.0	23.7	155.7	32.6
2012Q3	149.6	23.1	172.7	30.0
2012Q4	112.0	20.9	132.9	34.6
2013Q1	86.8	21.9	108.7	17.4
2013Q2	119.0	19.9	138.9	21.4
2013Q3	73.9	18.4	92.3	9.0
2013Q4	88.8	19.7	108.5	12.2
2014Q1	85.3	18.0	103.3	20.2
2014Q2	112.0	17.2	129.2	22.7
2014Q3	169.9	19.8	189.7	53.0
2014Q4	106.0	17.7	123.8	26.3
2015Q1	98.1	16.2	114.3	27.2
2015Q2	120.7	20.3	141.0	45.6
2015Q3	133.2	17.6	150.8	28.8
2015Q4	122.7	18.4	141.1	28.7
2016Q1	179.3	19.3	198.6	49.6
2016Q2	101.3	16.1	117.4	30.3
2016Q3	57.9	17.8	75.7	19.4
2016Q4	68.9	13.0	81.9	30.5
2017Q1	100.4	15.2	115.6	50.8
2017Q2	152.1	16.0	168.0	67.0
2017Q3	106.7	17.2	123.8	14.7
2017Q4	102.3	16.2	118.4	10.3
2018Q1	74.0	15.2	89.2	16.6
2018Q2	65.4	12.7	78.1	16.3
2018Q3	54.3	10.5	64.8	0.7
2018Q4	73.6	14.3	87.9	19.4
2019Q1	142.4	15.9	158.3	29.0
2019Q2	69.9	9.8	79.6	5.4
2019Q3	70.3	12.5	82.9	19.2
2019Q4	55.8	9.8	65.6	24.8
2020Q1	123.8	15.8	139.7	51.2
2020Q2	73.0	11.2	84.2	57.8
2020Q3	63.4	13.0	76.4	30.4
2020Q4	32.7	18.4	51.1	22.2



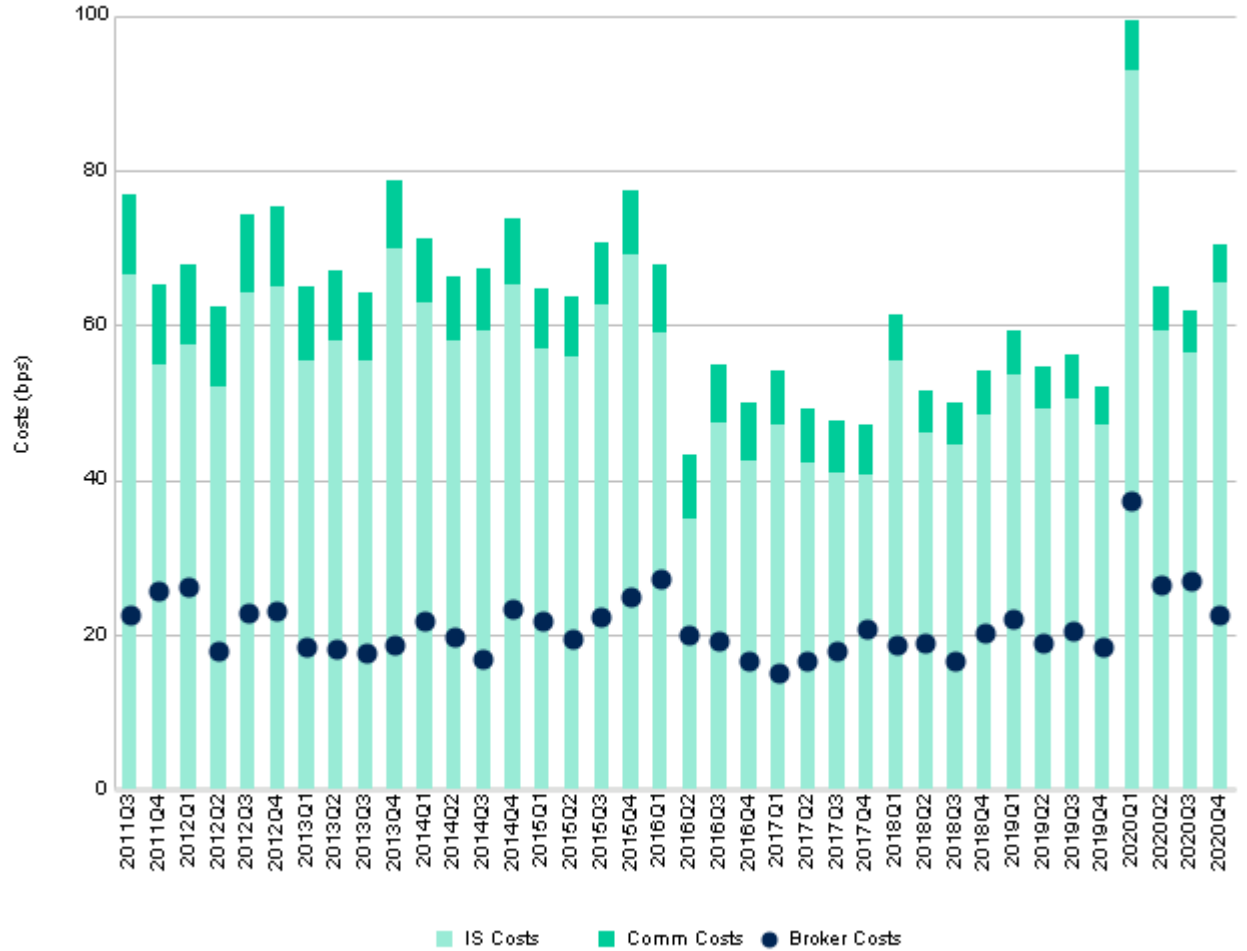
United States - Small Cap (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2011Q3	88.7	20.3	109.0	32.2
2011Q4	114.2	19.5	133.7	30.0
2012Q1	98.5	18.7	117.3	36.2
2012Q2	86.9	18.4	105.3	16.5
2012Q3	95.5	18.8	114.2	32.4
2012Q4	113.7	18.2	131.8	33.0
2013Q1	74.8	16.2	91.0	22.3
2013Q2	88.6	16.4	105.0	23.6
2013Q3	95.5	15.6	111.1	22.2
2013Q4	105.5	16.0	121.5	20.9
2014Q1	99.5	15.0	114.5	31.2
2014Q2	103.1	15.7	118.8	31.4
2014Q3	103.1	15.0	118.1	22.0
2014Q4	137.3	17.0	154.3	36.5
2015Q1	125.3	14.8	140.1	37.8
2015Q2	98.8	14.3	113.1	29.4
2015Q3	122.5	14.1	136.6	28.9
2015Q4	95.8	14.6	110.4	25.8
2016Q1	109.3	14.8	124.2	25.6
2016Q2	66.9	13.5	80.4	23.8
2016Q3	77.1	13.4	90.5	19.1
2016Q4	83.3	12.1	95.4	22.2
2017Q1	67.8	13.0	80.8	29.0
2017Q2	85.2	11.9	97.0	34.2
2017Q3	76.3	12.4	88.7	20.7
2017Q4	82.8	12.0	94.8	29.8
2018Q1	77.3	11.1	88.4	24.9
2018Q2	72.4	9.6	82.0	32.9
2018Q3	65.4	10.2	75.6	19.1
2018Q4	94.2	10.2	104.4	8.7
2019Q1	95.4	11.0	106.3	28.4
2019Q2	76.2	10.0	86.2	36.1
2019Q3	68.5	11.3	79.8	29.9
2019Q4	76.4	10.6	87.0	23.5
2020Q1	148.7	13.2	161.9	51.0
2020Q2	104.9	11.6	116.6	33.3
2020Q3	64.9	9.8	74.7	31.0
2020Q4	88.7	11.2	99.9	40.1



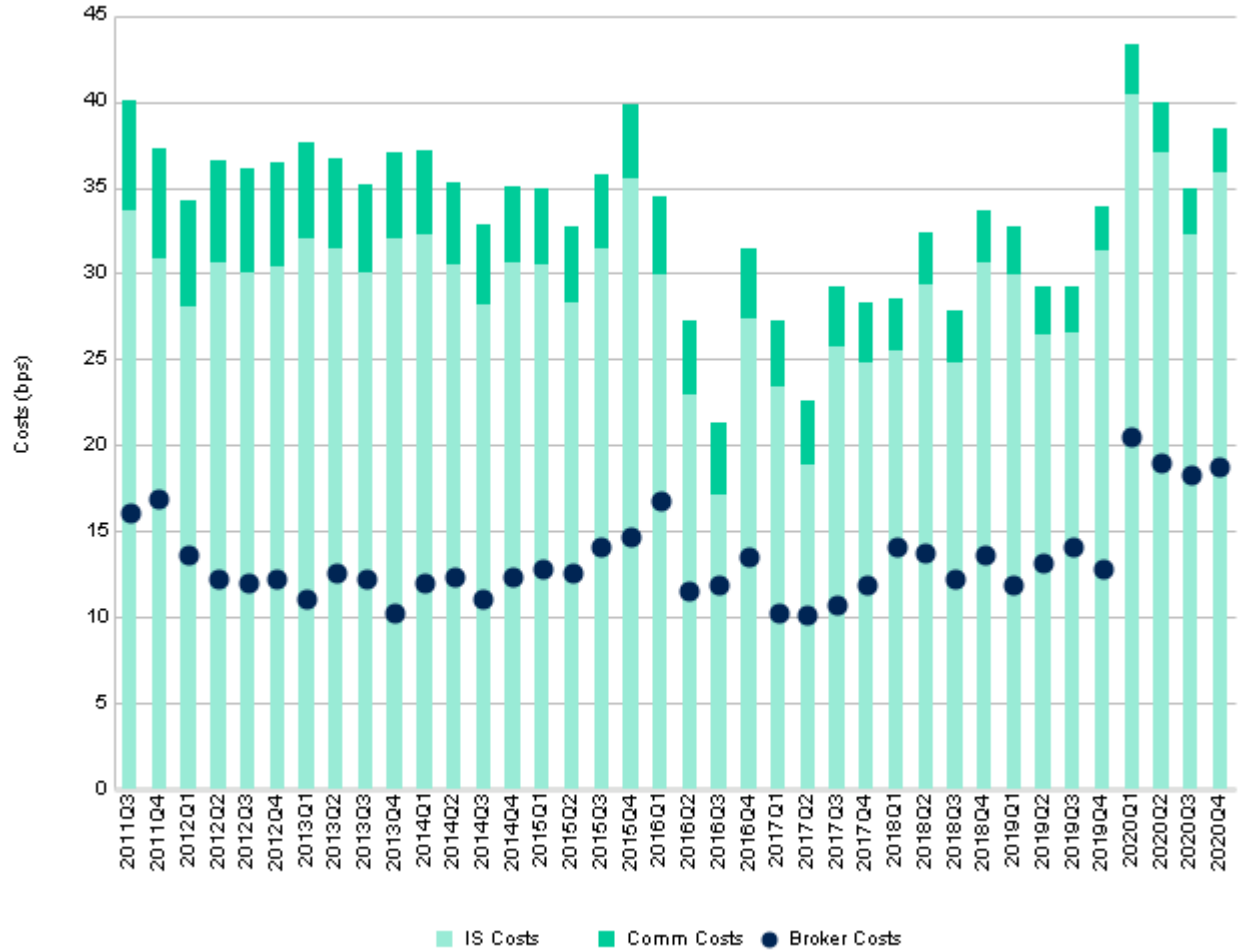
United States - Mid Cap (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2011Q3	66.6	10.2	76.8	22.6
2011Q4	55.0	10.2	65.3	25.8
2012Q1	57.5	10.2	67.7	26.1
2012Q2	52.1	10.2	62.3	17.8
2012Q3	64.2	10.2	74.4	22.8
2012Q4	64.9	10.3	75.2	23.0
2013Q1	55.3	9.7	65.1	18.5
2013Q2	57.9	9.2	67.1	18.1
2013Q3	55.3	9.0	64.3	17.6
2013Q4	70.0	8.7	78.6	18.8
2014Q1	62.8	8.5	71.3	21.9
2014Q2	58.1	8.2	66.3	19.7
2014Q3	59.2	8.1	67.3	17.0
2014Q4	65.3	8.6	73.9	23.3
2015Q1	57.0	7.8	64.7	21.9
2015Q2	56.0	7.6	63.6	19.4
2015Q3	62.6	8.0	70.6	22.4
2015Q4	69.1	8.2	77.3	24.9
2016Q1	59.0	8.9	67.9	27.3
2016Q2	35.0	8.3	43.3	19.9
2016Q3	47.4	7.6	55.0	19.3
2016Q4	42.5	7.4	49.9	16.6
2017Q1	47.1	7.0	54.1	15.2
2017Q2	42.2	7.1	49.3	16.5
2017Q3	41.0	6.7	47.7	18.0
2017Q4	40.7	6.5	47.2	20.9
2018Q1	55.5	5.9	61.4	18.8
2018Q2	46.1	5.5	51.6	19.1
2018Q3	44.6	5.3	49.9	16.6
2018Q4	48.4	5.8	54.2	20.3
2019Q1	53.7	5.6	59.2	22.1
2019Q2	49.2	5.3	54.5	18.9
2019Q3	50.6	5.6	56.2	20.6
2019Q4	47.1	5.1	52.1	18.5
2020Q1	93.0	6.3	99.3	37.4
2020Q2	59.2	5.9	65.0	26.3
2020Q3	56.4	5.3	61.8	26.9
2020Q4	65.5	5.0	70.5	22.5



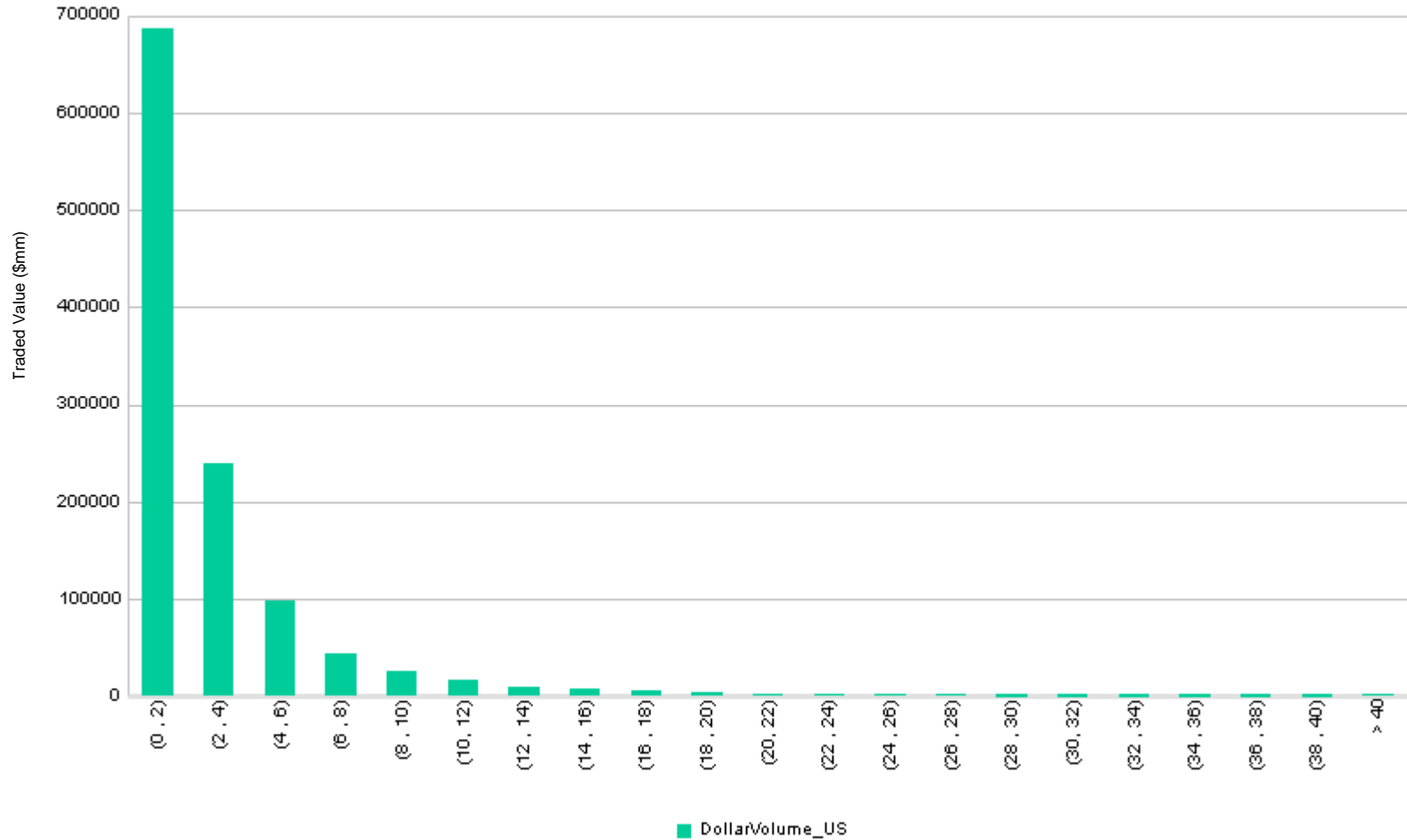
United States - Large Cap (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2011Q3	33.7	6.4	40.1	16.1
2011Q4	30.9	6.4	37.3	16.9
2012Q1	28.1	6.2	34.3	13.6
2012Q2	30.6	6.0	36.6	12.2
2012Q3	30.1	6.0	36.1	12.0
2012Q4	30.4	6.1	36.5	12.3
2013Q1	32.0	5.6	37.6	11.1
2013Q2	31.4	5.3	36.8	12.6
2013Q3	30.0	5.2	35.2	12.2
2013Q4	32.0	5.0	37.0	10.3
2014Q1	32.3	4.9	37.2	12.0
2014Q2	30.5	4.8	35.3	12.4
2014Q3	28.2	4.7	32.9	11.1
2014Q4	30.6	4.5	35.1	12.3
2015Q1	30.5	4.4	34.9	12.9
2015Q2	28.3	4.4	32.8	12.6
2015Q3	31.4	4.4	35.7	14.1
2015Q4	35.5	4.3	39.8	14.7
2016Q1	30.0	4.5	34.5	16.8
2016Q2	22.9	4.4	27.3	11.6
2016Q3	17.2	4.1	21.3	11.9
2016Q4	27.3	4.1	31.4	13.6
2017Q1	23.4	3.9	27.3	10.3
2017Q2	18.9	3.7	22.6	10.2
2017Q3	25.8	3.5	29.3	10.8
2017Q4	24.9	3.5	28.3	11.9
2018Q1	25.5	3.1	28.6	14.1
2018Q2	29.4	3.1	32.4	13.8
2018Q3	24.8	3.0	27.8	12.3
2018Q4	30.6	3.0	33.6	13.6
2019Q1	29.9	2.9	32.8	11.9
2019Q2	26.5	2.7	29.2	13.1
2019Q3	26.5	2.7	29.2	14.2
2019Q4	31.3	2.5	33.9	12.9
2020Q1	40.4	3.0	43.3	20.5
2020Q2	37.1	2.9	39.9	19.0
2020Q3	32.2	2.7	34.9	18.3
2020Q4	35.9	2.5	38.4	18.7



United States Commission (bps)

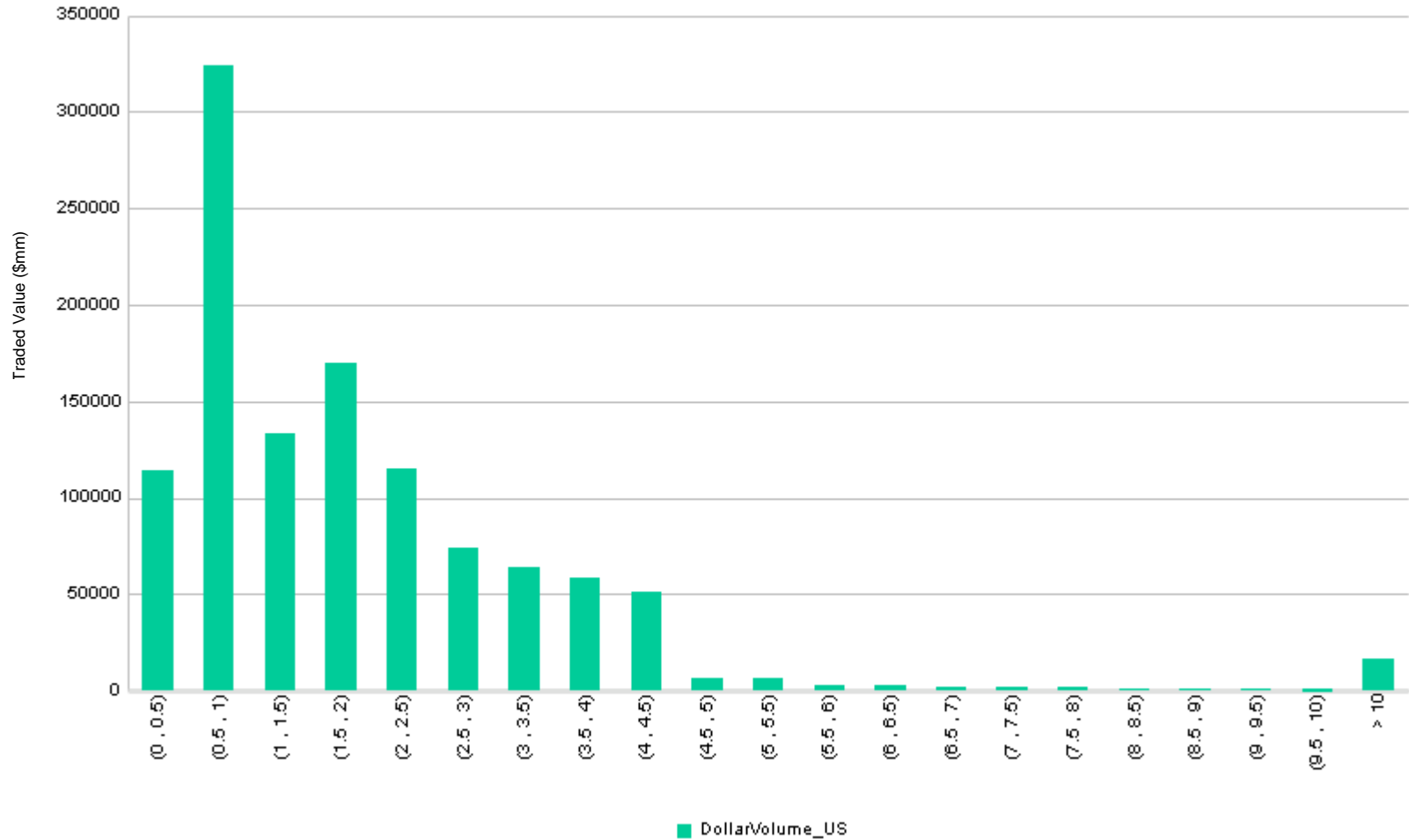
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	686,409
(2 , 4)	239,126
(4 , 6)	98,849
(6 , 8)	44,236
(8 , 10)	25,419
(10 , 12)	17,414
(12 , 14)	8,909
(14 , 16)	7,017
(16 , 18)	5,026
(18 , 20)	3,838
(20 , 22)	2,537
(22 , 24)	1,779
(24 , 26)	1,675
(26 , 28)	1,511
(28 , 30)	1,165
(30 , 32)	858
(32 , 34)	559
(34 , 36)	493
(36 , 38)	444
(38 , 40)	378
> 40	2,074
Total	1,149,718



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	18.4	1,276
Small Cap	11.2	9,918
Mid Cap	5.0	169,512
Large Cap	2.5	969,012
Total	3.0	1,149,718

United States Commission (CPS)

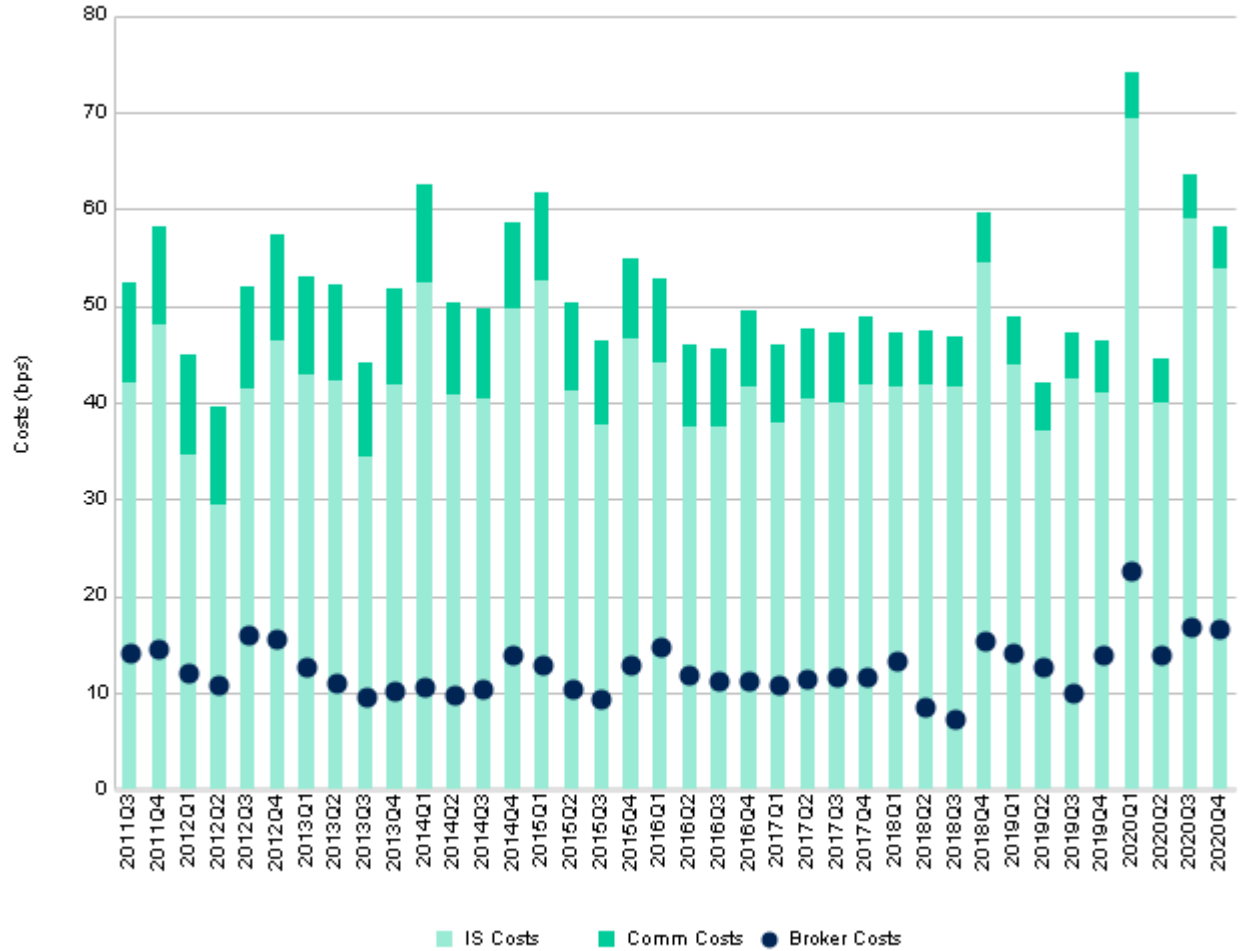
Commission (CPS)	Traded Value (USD Millions)
(0 , 0.5)	114,228
(0.5 , 1)	323,984
(1 , 1.5)	133,188
(1.5 , 2)	169,980
(2 , 2.5)	115,452
(2.5 , 3)	73,996
(3 , 3.5)	63,815
(3.5 , 4)	58,802
(4 , 4.5)	51,317
(4.5 , 5)	6,635
(5 , 5.5)	6,841
(5.5 , 6)	3,293
(6 , 6.5)	2,629
(6.5 , 7)	2,239
(7 , 7.5)	2,089
(7.5 , 8)	1,686
(8 , 8.5)	1,244
(8.5 , 9)	872
(9 , 9.5)	689
(9.5 , 10)	603
> 10	16,134
Total	1,149,718



Market Cap	Avg Commission (CPS)	Traded Value (USD Millions)
Micro Cap	0.7	1,276
Small Cap	1.0	9,918
Mid Cap	1.3	169,512
Large Cap	1.6	969,012
Total	1.4	1,149,718

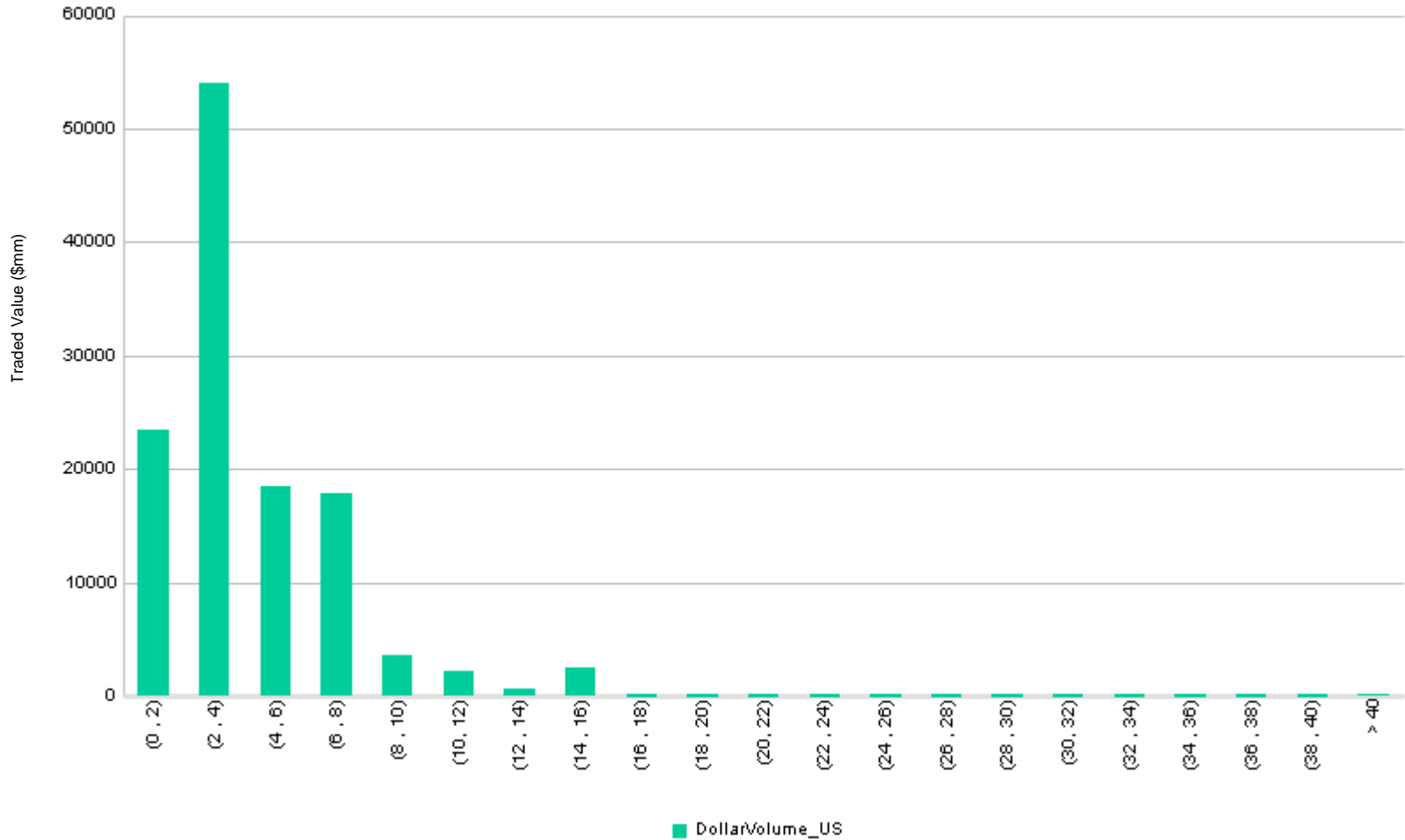
United Kingdom (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker_BPS
2011Q3	42.1	10.2	52.3	14.1
2011Q4	48.0	10.1	58.1	14.6
2012Q1	34.7	10.3	45.0	12.1
2012Q2	29.4	10.1	39.5	10.9
2012Q3	41.4	10.6	52.0	15.9
2012Q4	46.3	11.1	57.4	15.5
2013Q1	42.8	10.3	53.1	12.7
2013Q2	42.3	9.8	52.1	11.0
2013Q3	34.3	9.8	44.1	9.5
2013Q4	41.8	9.9	51.8	10.2
2014Q1	52.5	10.1	62.6	10.6
2014Q2	40.9	9.5	50.4	9.7
2014Q3	40.3	9.4	49.8	10.4
2014Q4	49.6	8.9	58.5	14.0
2015Q1	52.7	8.9	61.6	12.8
2015Q2	41.2	9.2	50.4	10.4
2015Q3	37.7	8.6	46.3	9.3
2015Q4	46.5	8.3	54.9	13.0
2016Q1	44.1	8.6	52.7	14.8
2016Q2	37.5	8.3	45.9	11.9
2016Q3	37.5	8.0	45.5	11.3
2016Q4	41.7	7.8	49.5	11.2
2017Q1	37.8	8.1	45.9	10.7
2017Q2	40.4	7.2	47.6	11.4
2017Q3	39.9	7.4	47.3	11.7
2017Q4	41.7	7.0	48.8	11.6
2018Q1	41.6	5.8	47.3	13.3
2018Q2	41.8	5.5	47.3	8.5
2018Q3	41.6	5.3	46.9	7.4
2018Q4	54.5	5.1	59.6	15.4
2019Q1	43.9	5.1	49.0	14.1
2019Q2	37.1	4.9	42.0	12.8
2019Q3	42.4	4.8	47.2	10.1
2019Q4	41.1	5.2	46.3	14.0
2020Q1	69.3	4.9	74.2	22.6
2020Q2	40.0	4.6	44.6	14.0
2020Q3	59.0	4.6	63.6	16.7
2020Q4	53.8	4.3	58.1	16.6



United Kingdom Commission (BPS)

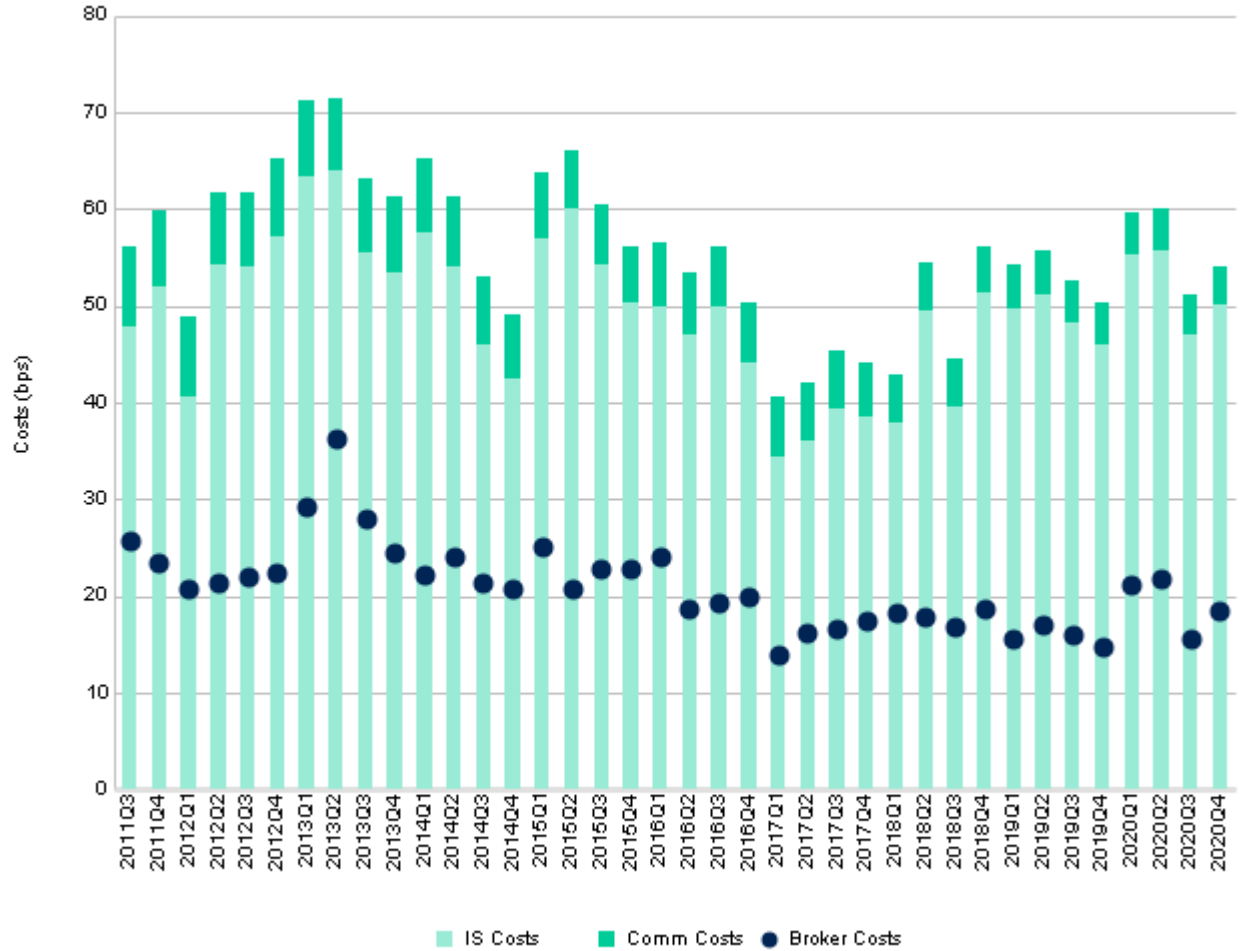
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	23,431
(2 , 4)	54,099
(4 , 6)	18,552
(6 , 8)	17,852
(8 , 10)	3,657
(10 , 12)	2,182
(12 , 14)	703
(14 , 16)	2,434
(16 , 18)	42
(18 , 20)	69
(20 , 22)	58
(22 , 24)	47
(24 , 26)	64
(26 , 28)	28
(28 , 30)	3
(30 , 32)	4
(32 , 34)	19
(34 , 36)	18
(36 , 38)	34
(38 , 40)	10
> 40	244
Total	123,549



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	7.0	207
Small Cap	6.6	1,419
Mid Cap	5.3	22,371
Large Cap	4.1	99,552
Total	4.3	123,549

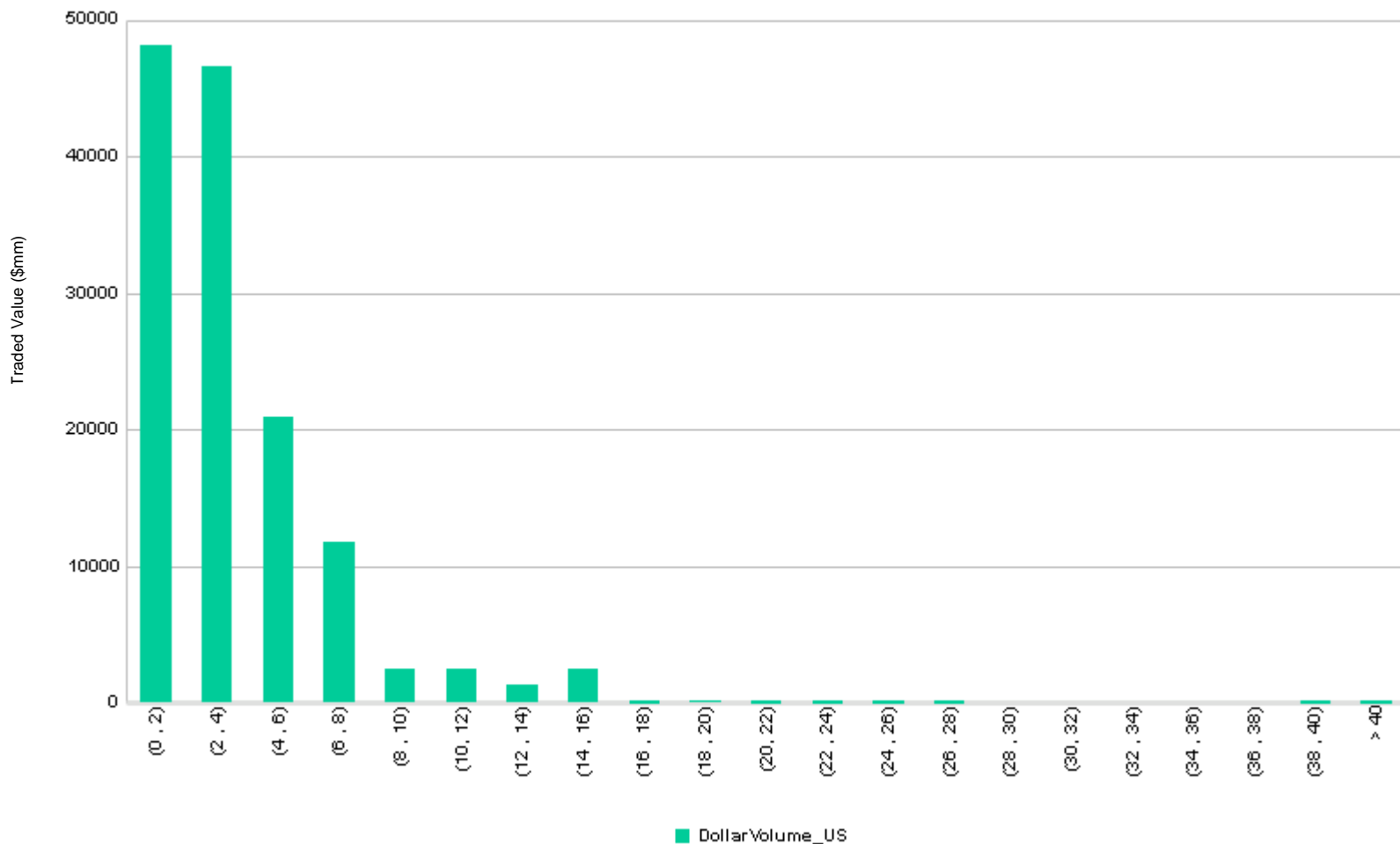
Japan (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2011Q3	47.9	8.2	56.1	25.8
2011Q4	51.9	8.0	60.0	23.5
2012Q1	40.6	8.3	49.0	20.8
2012Q2	54.3	7.5	61.8	21.3
2012Q3	54.1	7.6	61.7	21.9
2012Q4	57.1	8.1	65.2	22.3
2013Q1	63.4	7.9	71.4	29.2
2013Q2	63.9	7.6	71.5	36.3
2013Q3	55.4	7.7	63.1	28.0
2013Q4	53.5	7.7	61.2	24.5
2014Q1	57.5	7.8	65.3	22.2
2014Q2	54.1	7.3	61.4	24.0
2014Q3	46.0	7.0	53.0	21.4
2014Q4	42.4	6.7	49.0	20.8
2015Q1	57.0	6.7	63.7	25.1
2015Q2	60.0	6.1	66.1	20.7
2015Q3	54.3	6.1	60.4	22.8
2015Q4	50.3	5.8	56.1	22.8
2016Q1	49.8	6.7	56.6	24.1
2016Q2	47.0	6.4	53.3	18.8
2016Q3	49.8	6.3	56.2	19.3
2016Q4	44.1	6.2	50.3	19.9
2017Q1	34.4	6.3	40.7	13.9
2017Q2	36.0	6.1	42.1	16.1
2017Q3	39.5	5.9	45.3	16.6
2017Q4	38.5	5.6	44.1	17.5
2018Q1	37.9	4.9	42.8	18.2
2018Q2	49.5	5.0	54.5	17.8
2018Q3	39.5	5.0	44.5	16.7
2018Q4	51.3	4.9	56.1	18.7
2019Q1	49.6	4.7	54.3	15.6
2019Q2	51.2	4.5	55.8	17.0
2019Q3	48.2	4.3	52.5	16.0
2019Q4	46.1	4.4	50.4	14.7
2020Q1	55.3	4.5	59.7	21.3
2020Q2	55.8	4.2	60.0	21.8
2020Q3	47.0	4.1	51.1	15.6
2020Q4	50.1	3.9	54.0	18.4



Japan Commission (BPS)

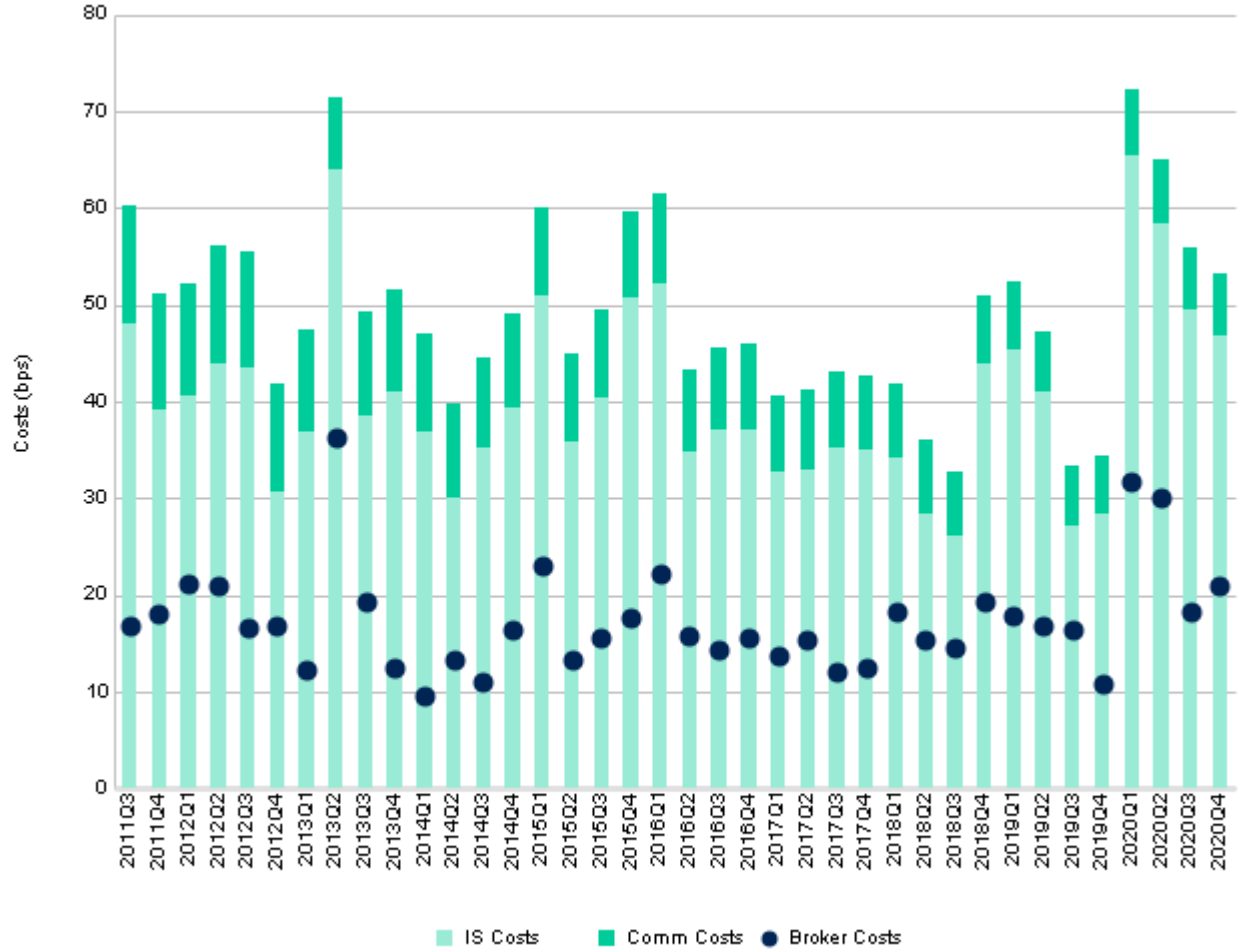
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	48,095
(2 , 4)	46,629
(4 , 6)	20,927
(6 , 8)	11,809
(8 , 10)	2,466
(10 , 12)	2,516
(12 , 14)	1,295
(14 , 16)	2,499
(16 , 18)	64
(18 , 20)	89
(20 , 22)	15
(22 , 24)	5
(24 , 26)	20
(26 , 28)	3
(28 , 30)	1
(30 , 32)	2
(32 , 34)	1
(34 , 36)	<1
(36 , 38)	2
(38 , 40)	3
> 40	39
Total	136,481



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	3.5	145
Small Cap	3.3	1,968
Mid Cap	3.7	27,006
Large Cap	4.0	107,362
Total	3.9	136,481

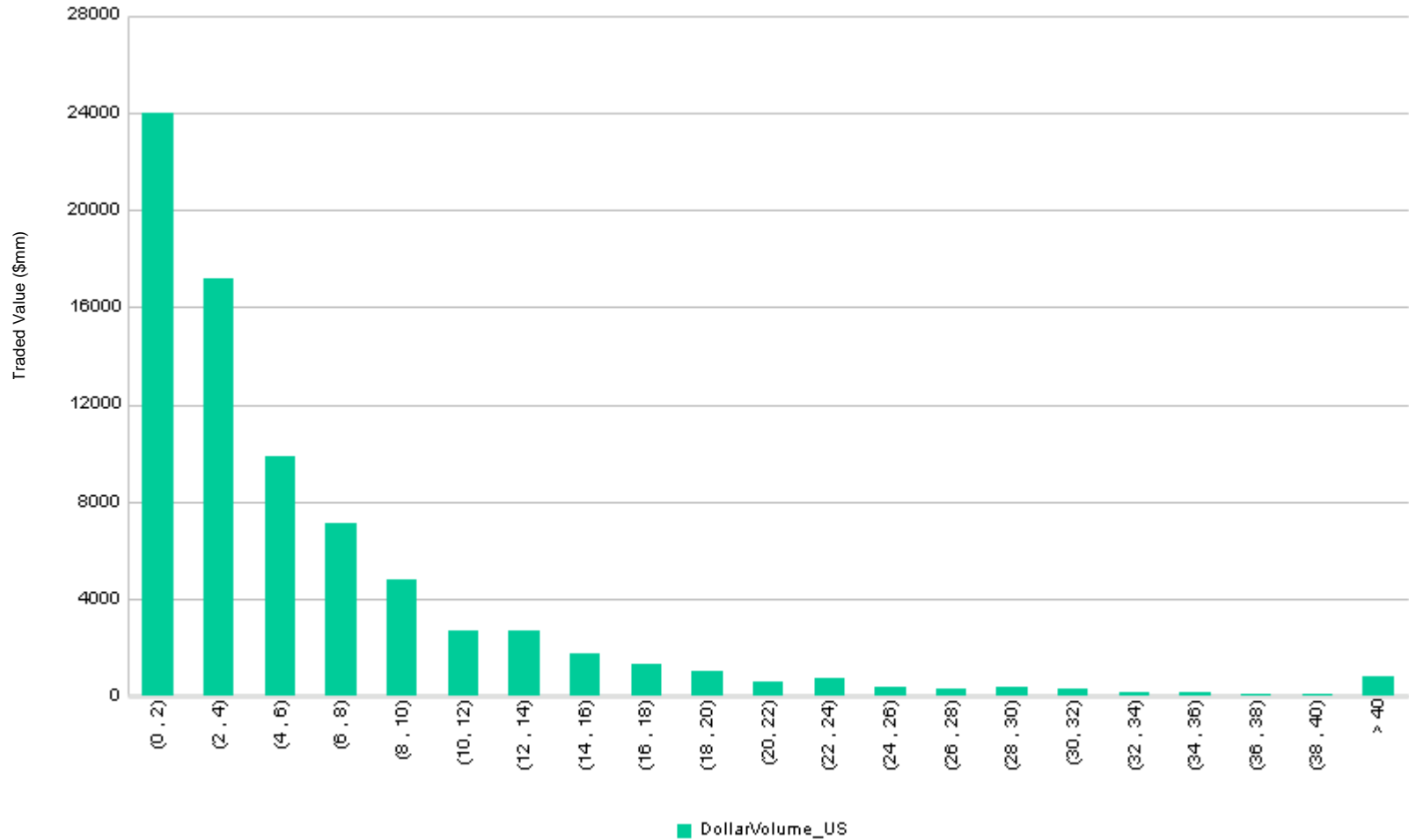
Canada (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2011Q3	48.0	12.3	60.3	16.9
2011Q4	39.1	12.1	51.2	18.1
2012Q1	40.5	11.7	52.3	21.1
2012Q2	43.9	12.3	56.2	20.9
2012Q3	43.5	12.0	55.5	16.7
2012Q4	30.6	11.3	41.9	16.8
2013Q1	36.8	10.6	47.4	12.3
2013Q2	63.9	7.6	71.5	36.3
2013Q3	38.6	10.7	49.3	19.2
2013Q4	41.1	10.5	51.7	12.5
2014Q1	36.8	10.3	47.0	9.5
2014Q2	30.0	9.8	39.9	13.4
2014Q3	35.2	9.4	44.6	11.0
2014Q4	39.3	9.8	49.0	16.5
2015Q1	51.0	9.0	60.1	23.0
2015Q2	35.9	9.1	45.0	13.3
2015Q3	40.4	9.1	49.4	15.5
2015Q4	50.7	9.0	59.7	17.7
2016Q1	52.1	9.3	61.5	22.1
2016Q2	34.8	8.5	43.4	15.8
2016Q3	37.1	8.5	45.6	14.3
2016Q4	37.2	8.8	46.0	15.6
2017Q1	32.7	7.9	40.7	13.7
2017Q2	33.0	8.2	41.2	15.4
2017Q3	35.3	7.8	43.1	12.1
2017Q4	35.0	7.7	42.7	12.4
2018Q1	34.2	7.7	41.9	18.2
2018Q2	28.5	7.6	36.0	15.3
2018Q3	26.0	6.7	32.7	14.6
2018Q4	43.9	7.0	50.9	19.3
2019Q1	45.4	7.0	52.5	17.9
2019Q2	41.0	6.2	47.2	16.8
2019Q3	27.1	6.3	33.3	16.5
2019Q4	28.4	6.0	34.4	10.8
2020Q1	65.4	6.8	72.2	31.6
2020Q2	58.4	6.5	64.9	30.0
2020Q3	49.6	6.4	56.0	18.2
2020Q4	46.8	6.4	53.2	20.9



Canada Commission (BPS)

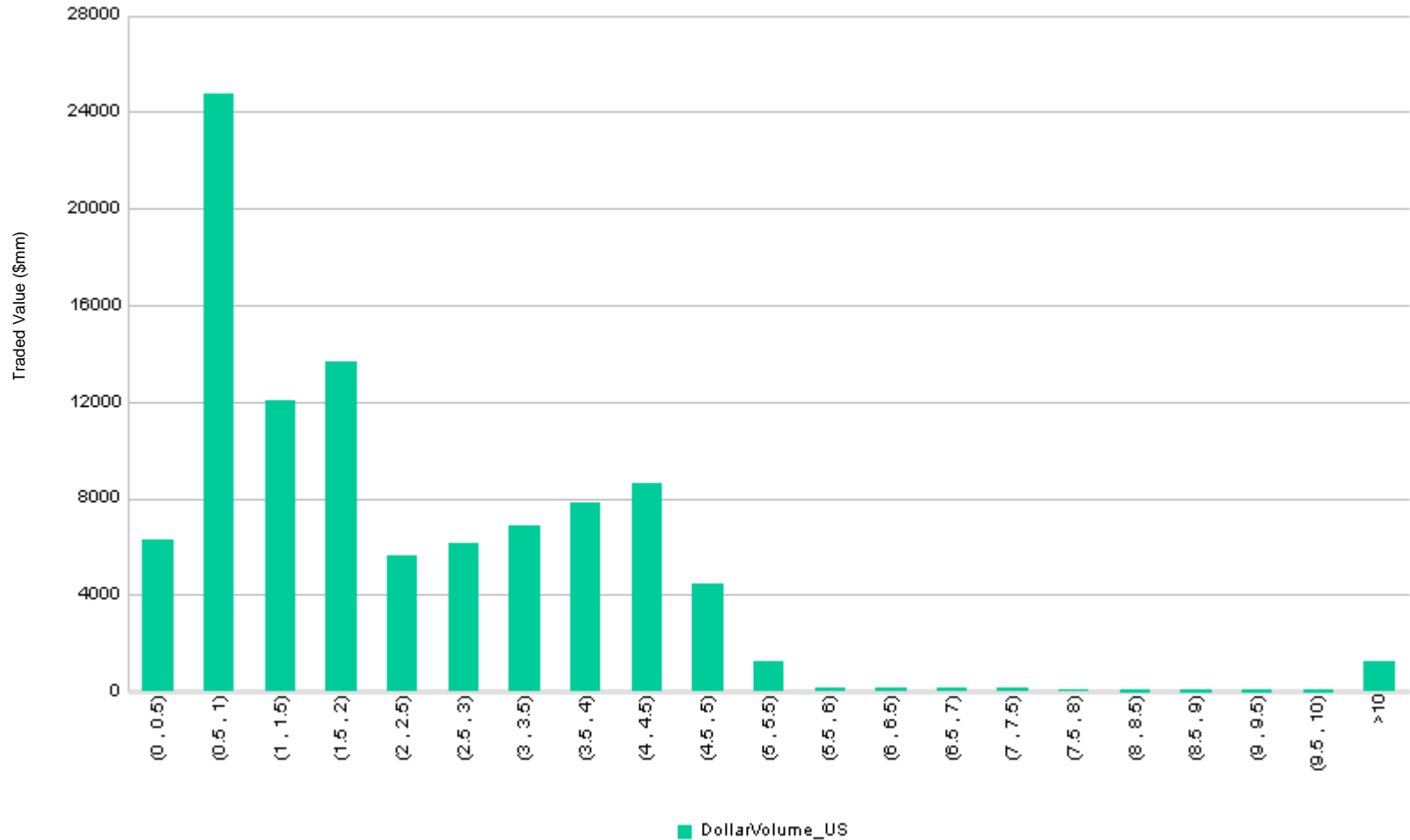
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	24,026
(2 , 4)	17,150
(4 , 6)	9,895
(6 , 8)	7,121
(8 , 10)	4,771
(10 , 12)	2,719
(12 , 14)	2,669
(14 , 16)	1,755
(16 , 18)	1,313
(18 , 20)	1,014
(20 , 22)	575
(22 , 24)	772
(24 , 26)	375
(26 , 28)	333
(28 , 30)	400
(30 , 32)	325
(32 , 34)	152
(34 , 36)	144
(36 , 38)	84
(38 , 40)	51
> 40	845
Total	76,491



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	15.3	939
Small Cap	16.8	2,249
Mid Cap	9.4	18,749
Large Cap	4.7	54,554
Total	6.4	76,491

Canada Commission (CAD CPS)

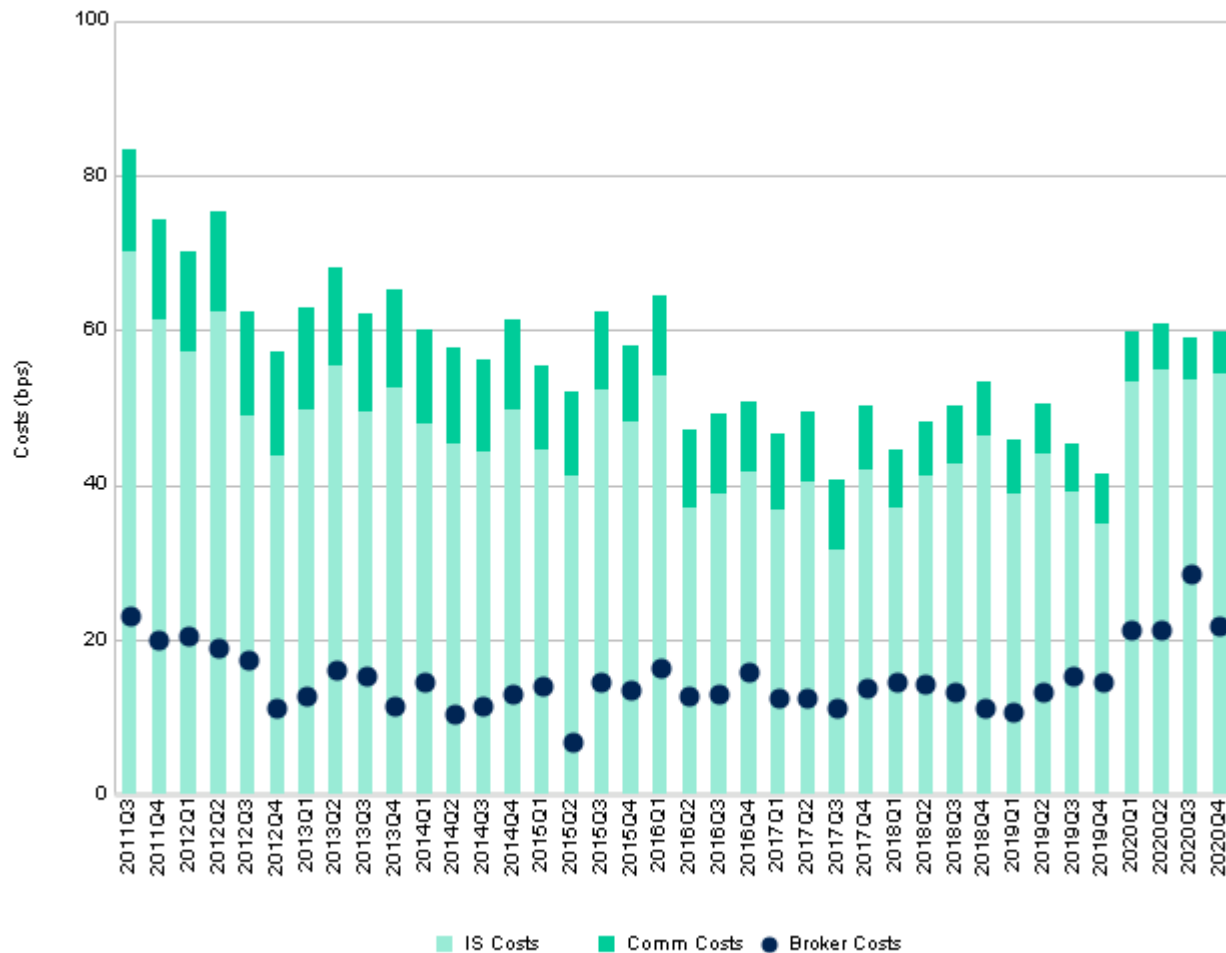
Commission (CAD CPS)	Traded Value (CAD Millions)
(0 , 0.5)	6,309
(0.5 , 1)	24,730
(1 , 1.5)	12,043
(1.5 , 2)	13,691
(2 , 2.5)	5,609
(2.5 , 3)	6,172
(3 , 3.5)	6,866
(3.5 , 4)	7,815
(4 , 4.5)	8,655
(4.5 , 5)	4,459
(5 , 5.5)	1,279
(5.5 , 6)	139
(6 , 6.5)	189
(6.5 , 7)	137
(7 , 7.5)	146
(7.5 , 8)	51
(8 , 8.5)	34
(8.5 , 9)	33
(9 , 9.5)	2
(9.5 , 10)	7
>10	1,231
Total	99,596



Market Cap	Avg Commission (CAD CPS)	Traded Value (CAD Millions)
Micro Cap	1.0	1,224
Small Cap	1.0	2,934
Mid Cap	1.3	24,430
Large Cap	1.5	71,007
Total	1.4	99,596

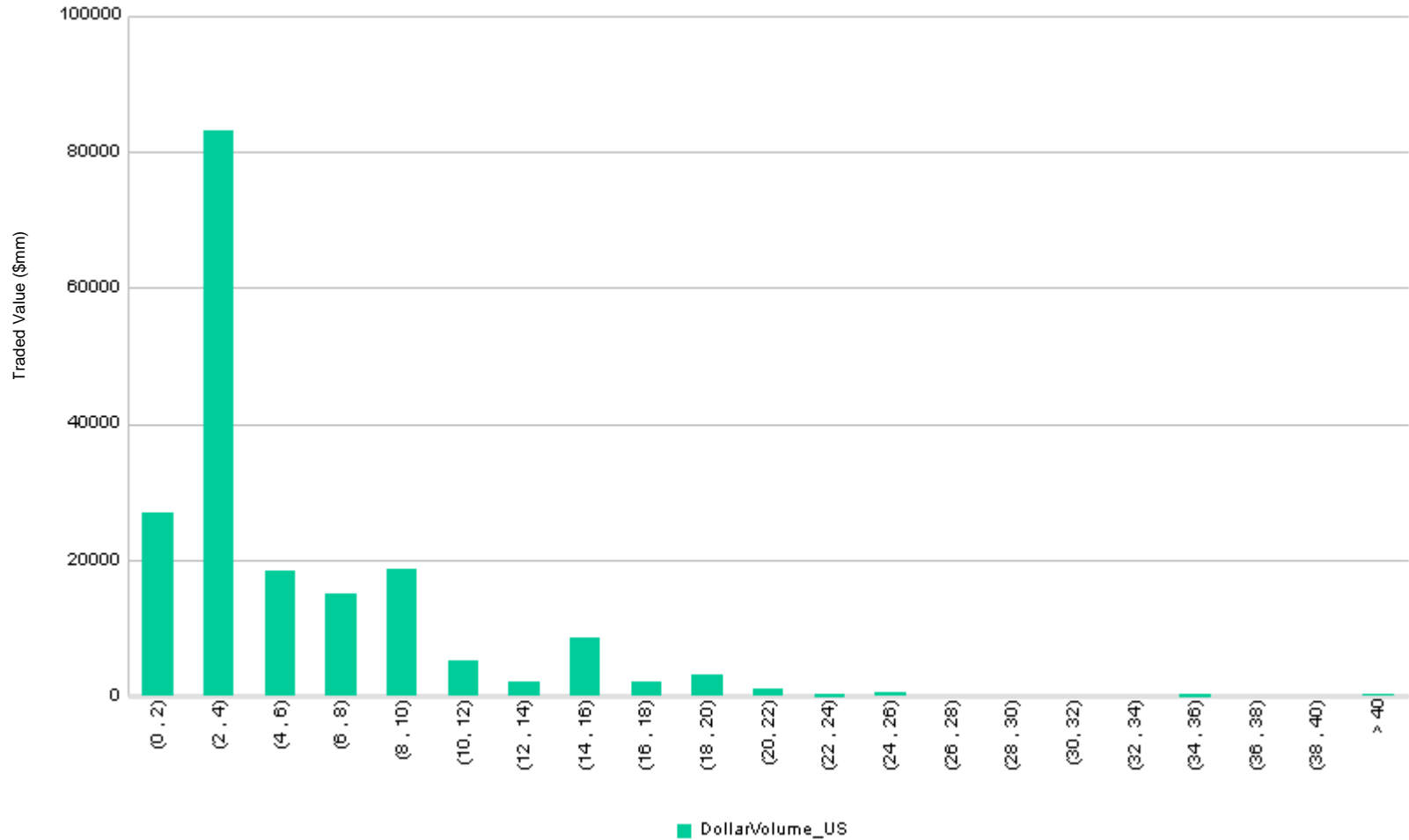
Asia Pacific ex - Japan(BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2011Q3	70.2	13.2	83.4	23.1
2011Q4	61.3	13.1	74.3	19.9
2012Q1	57.1	13.0	70.1	20.4
2012Q2	62.4	13.0	75.5	19.0
2012Q3	49.0	13.3	62.3	17.5
2012Q4	43.8	13.3	57.1	11.3
2013Q1	49.8	13.0	62.8	12.7
2013Q2	55.5	12.6	68.1	16.0
2013Q3	49.5	12.6	62.1	15.3
2013Q4	52.5	12.7	65.1	11.5
2014Q1	47.8	12.3	60.1	14.6
2014Q2	45.2	12.5	57.7	10.4
2014Q3	44.2	12.1	56.3	11.4
2014Q4	49.8	11.4	61.3	13.0
2015Q1	44.5	10.9	55.4	14.1
2015Q2	41.1	11.0	52.1	6.7
2015Q3	52.3	10.0	62.3	14.5
2015Q4	48.1	9.9	57.9	13.4
2016Q1	54.1	10.3	64.4	16.5
2016Q2	37.1	9.9	47.1	12.8
2016Q3	39.0	10.1	49.1	13.1
2016Q4	41.6	9.2	50.8	15.8
2017Q1	36.9	9.6	46.5	12.6
2017Q2	40.4	9.1	49.5	12.5
2017Q3	31.6	9.1	40.6	11.2
2017Q4	42.1	8.1	50.2	13.9
2018Q1	37.1	7.3	44.5	14.6
2018Q2	41.2	7.0	48.2	14.3
2018Q3	42.7	7.4	50.1	13.3
2018Q4	46.2	7.2	53.4	11.1
2019Q1	38.9	6.8	45.7	10.7
2019Q2	44.0	6.6	50.6	13.4
2019Q3	39.2	6.2	45.4	15.3
2019Q4	35.1	6.3	41.3	14.6
2020Q1	53.4	6.4	59.8	21.3
2020Q2	54.8	6.1	60.9	21.4
2020Q3	53.6	5.5	59.1	28.6
2020Q4	54.3	5.5	59.8	21.9



Asia Pacific ex - Japan Commission (BPS)

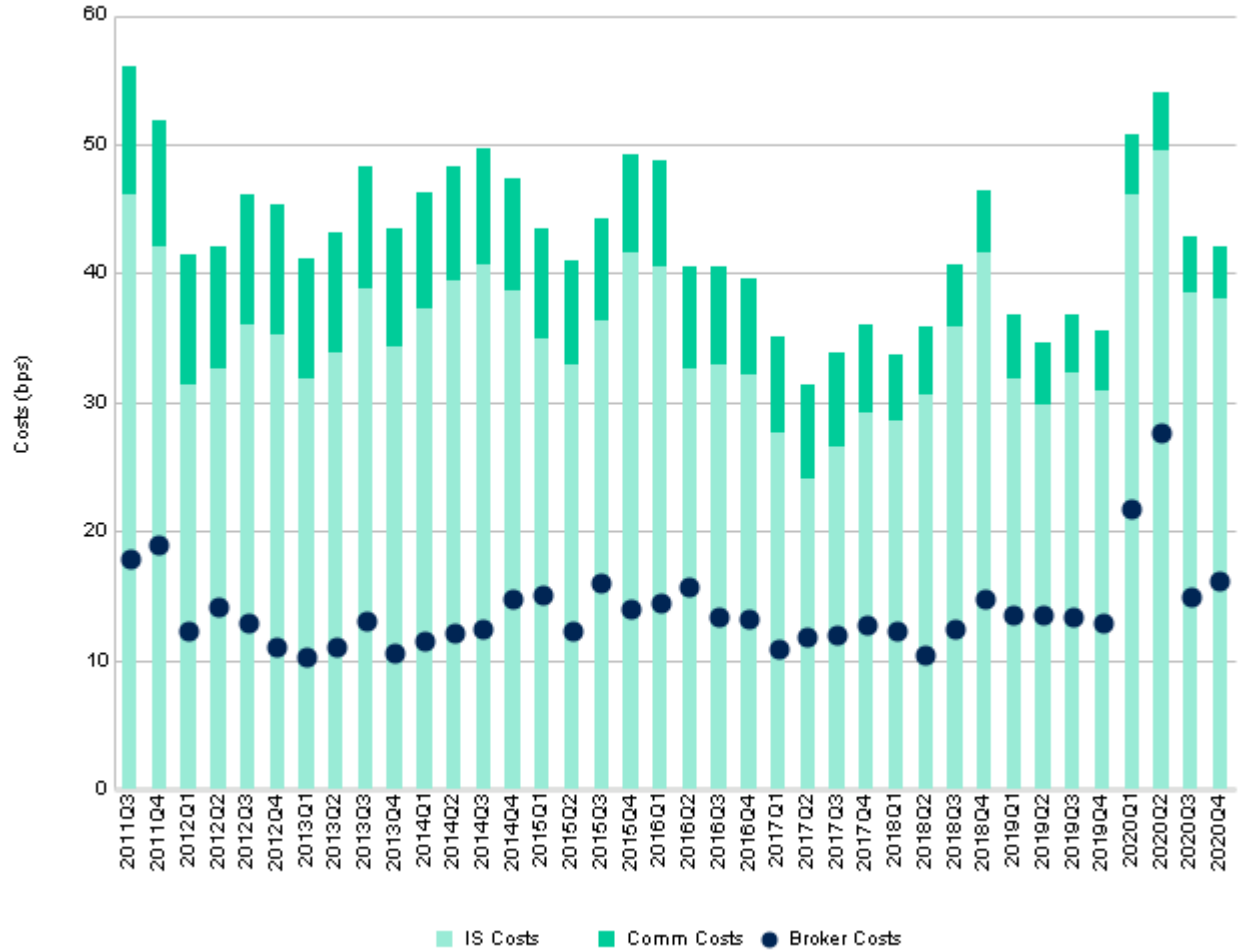
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	26,950
(2 , 4)	83,017
(4 , 6)	18,453
(6 , 8)	15,057
(8 , 10)	18,655
(10 , 12)	5,094
(12 , 14)	2,169
(14 , 16)	8,628
(16 , 18)	2,066
(18 , 20)	3,144
(20 , 22)	1,071
(22 , 24)	46
(24 , 26)	582
(26 , 28)	<1
(28 , 30)	<1
(30 , 32)	<1
(32 , 34)	1
(34 , 36)	14
(36 , 38)	<1
(38 , 40)	<1
> 40	375
Total	185,324



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	7.6	130
Small Cap	7.3	1,379
Mid Cap	5.7	32,629
Large Cap	5.5	151,186
Total	5.5	185,324

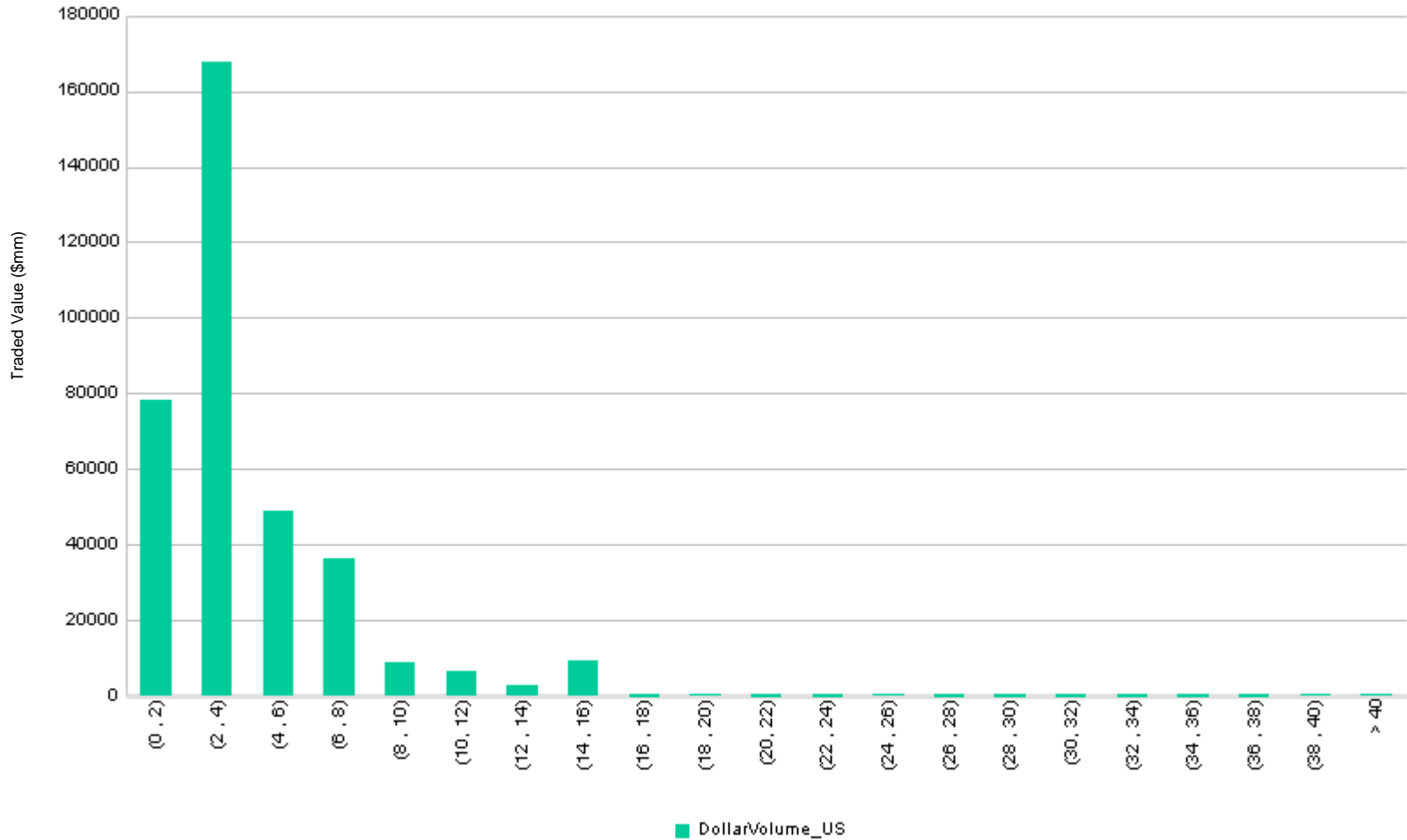
Europe ex - UK (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker_BPS
2011Q3	46.1	9.9	56.0	17.9
2011Q4	42.1	9.7	51.8	18.9
2012Q1	31.4	10.0	41.4	12.3
2012Q2	32.6	9.5	42.1	14.1
2012Q3	36.1	10.0	46.1	12.9
2012Q4	35.2	10.1	45.3	11.1
2013Q1	31.8	9.4	41.3	10.3
2013Q2	33.9	9.3	43.2	11.1
2013Q3	38.8	9.5	48.4	13.0
2013Q4	34.4	9.1	43.4	10.6
2014Q1	37.3	9.0	46.3	11.6
2014Q2	39.4	8.9	48.3	12.2
2014Q3	40.7	9.0	49.6	12.5
2014Q4	38.7	8.7	47.4	14.8
2015Q1	35.0	8.5	43.5	15.2
2015Q2	32.9	8.1	41.0	12.3
2015Q3	36.3	7.9	44.1	16.0
2015Q4	41.7	7.6	49.3	14.0
2016Q1	40.5	8.3	48.7	14.5
2016Q2	32.7	7.8	40.5	15.8
2016Q3	33.0	7.6	40.6	13.3
2016Q4	32.1	7.4	39.5	13.3
2017Q1	27.7	7.4	35.1	10.9
2017Q2	24.1	7.3	31.4	11.8
2017Q3	26.6	7.3	33.9	12.0
2017Q4	29.2	6.9	36.1	12.8
2018Q1	28.6	5.2	33.7	12.3
2018Q2	30.7	5.2	35.9	10.5
2018Q3	35.9	4.9	40.8	12.4
2018Q4	41.6	4.8	46.4	14.8
2019Q1	31.9	4.9	36.8	13.5
2019Q2	29.8	4.8	34.6	13.6
2019Q3	32.3	4.6	36.9	13.3
2019Q4	30.9	4.7	35.6	12.9
2020Q1	46.1	4.8	50.8	21.7
2020Q2	49.6	4.4	54.0	27.6
2020Q3	38.5	4.4	42.9	14.9
2020Q4	38.0	4.1	42.1	16.1



Europe ex - UK Commission (BPS)

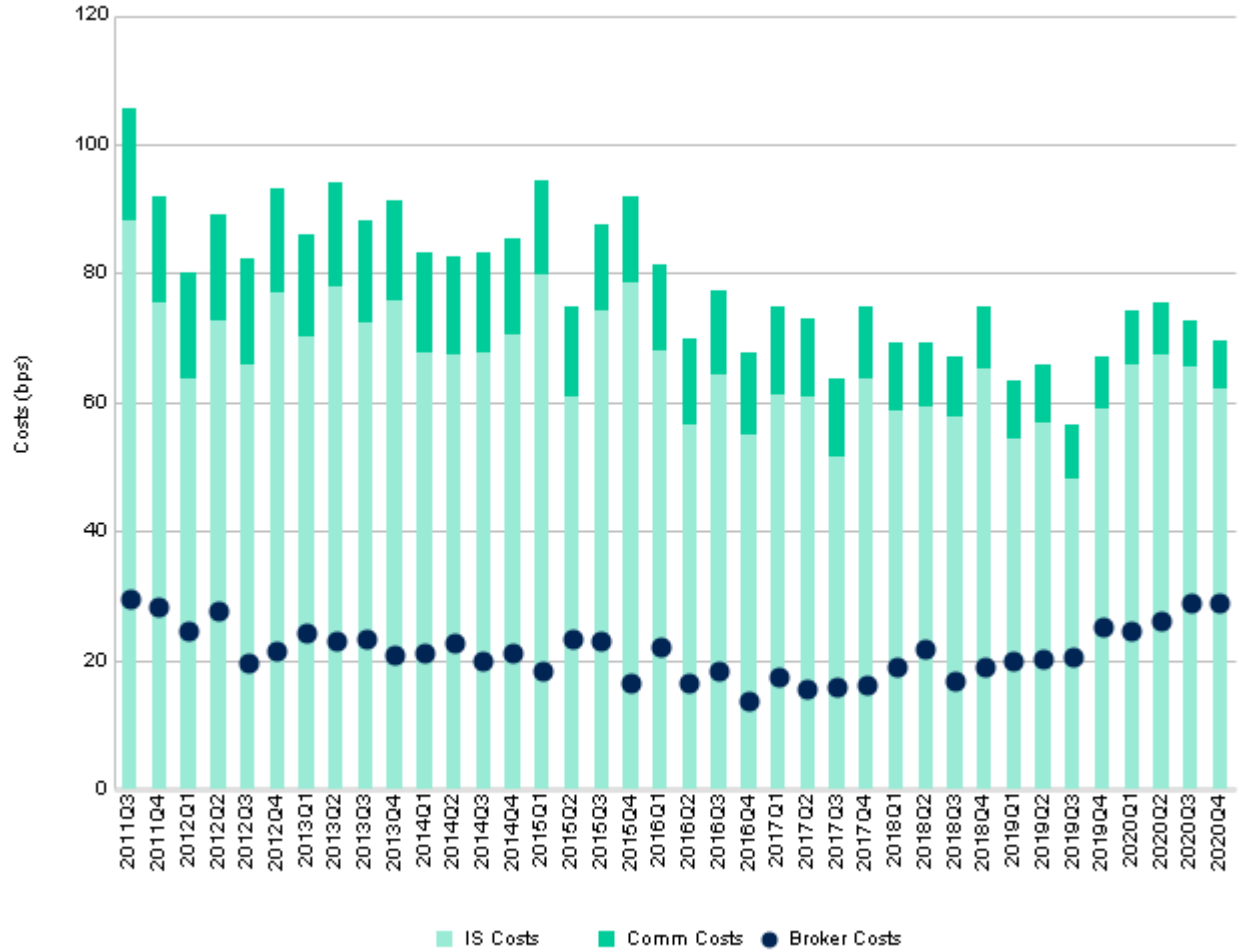
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	78,490
(2 , 4)	167,810
(4 , 6)	49,113
(6 , 8)	36,236
(8 , 10)	9,115
(10 , 12)	6,423
(12 , 14)	2,725
(14 , 16)	9,337
(16 , 18)	277
(18 , 20)	436
(20 , 22)	257
(22 , 24)	143
(24 , 26)	512
(26 , 28)	256
(28 , 30)	68
(30 , 32)	17
(32 , 34)	16
(34 , 36)	69
(36 , 38)	56
(38 , 40)	470
> 40	372
Total	362,199



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	5.4	107
Small Cap	5.1	1,311
Mid Cap	4.6	33,653
Large Cap	4.1	327,128
Total	4.1	362,199

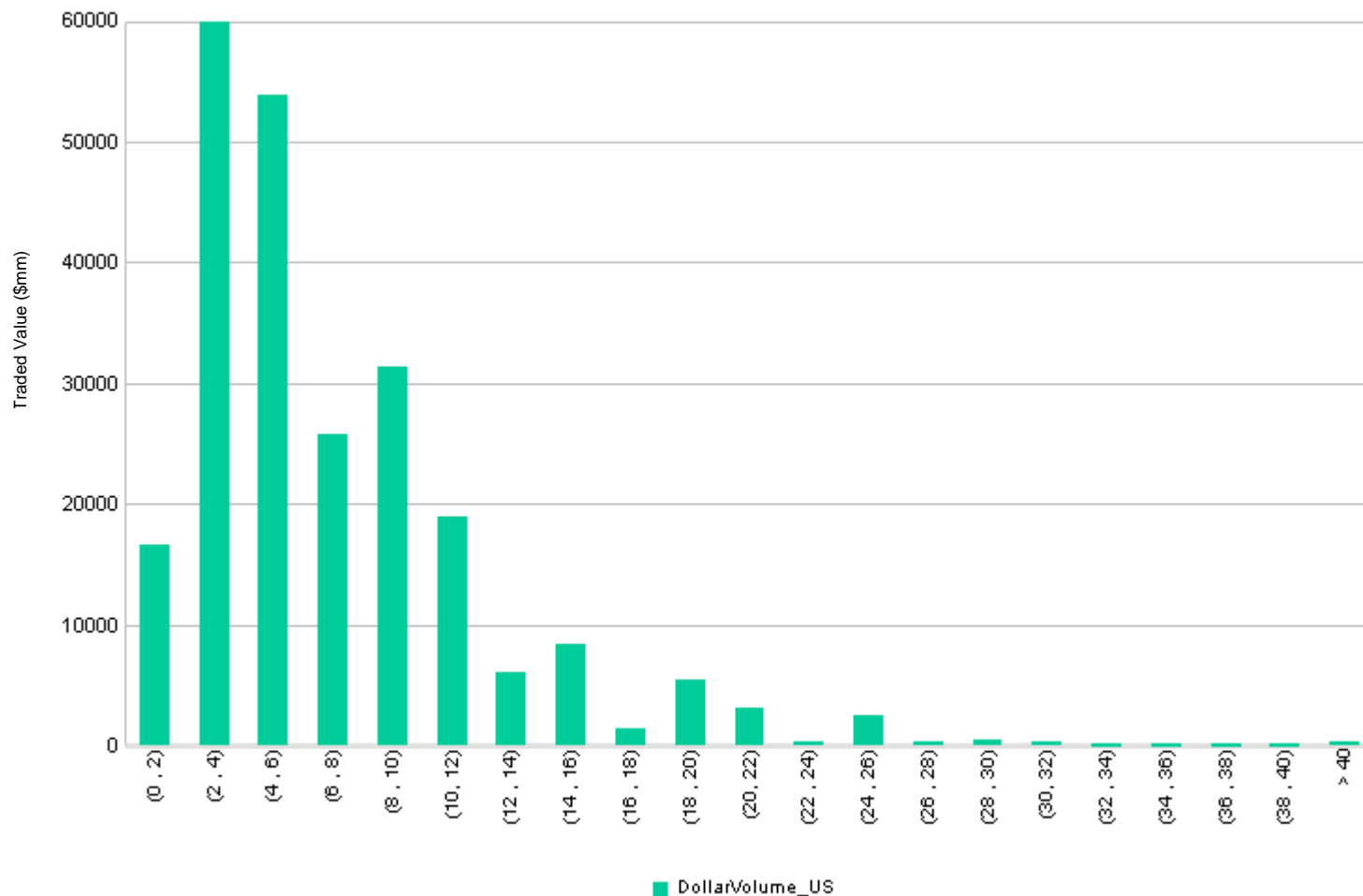
Emerging Markets (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2011Q3	88.3	17.3	105.7	29.6
2011Q4	75.6	16.3	91.9	28.2
2012Q1	63.8	16.2	80.0	24.5
2012Q2	72.8	16.2	89.1	27.7
2012Q3	66.0	16.3	82.3	19.6
2012Q4	77.0	16.2	93.3	21.5
2013Q1	70.3	15.7	86.0	24.3
2013Q2	78.1	16.0	94.1	23.1
2013Q3	72.3	15.8	88.1	23.3
2013Q4	75.8	15.5	91.3	21.0
2014Q1	67.7	15.6	83.3	21.3
2014Q2	67.5	15.1	82.6	22.6
2014Q3	67.8	15.4	83.2	20.0
2014Q4	70.4	14.9	85.3	21.2
2015Q1	79.8	14.6	94.4	18.4
2015Q2	60.9	14.0	74.9	23.5
2015Q3	74.3	13.2	87.5	23.0
2015Q4	78.7	13.1	91.8	16.5
2016Q1	68.0	13.4	81.3	22.1
2016Q2	56.6	13.3	69.9	16.5
2016Q3	64.3	12.9	77.3	18.4
2016Q4	55.0	12.7	67.7	13.8
2017Q1	61.3	13.5	74.8	17.5
2017Q2	60.9	12.3	73.1	15.6
2017Q3	51.5	12.0	63.6	15.8
2017Q4	63.6	11.1	74.7	16.2
2018Q1	58.9	10.3	69.2	19.0
2018Q2	59.3	9.9	69.3	21.7
2018Q3	57.9	9.3	67.2	17.0
2018Q4	65.3	9.4	74.8	19.1
2019Q1	54.3	9.0	63.3	20.0
2019Q2	56.8	9.1	65.8	20.2
2019Q3	48.3	8.4	56.7	20.4
2019Q4	59.0	8.3	67.3	25.2
2020Q1	65.8	8.5	74.3	24.5
2020Q2	67.5	8.2	75.6	26.1
2020Q3	65.4	7.4	72.8	29.0
2020Q4	62.3	7.2	69.5	28.8



Emerging Markets Commission (BPS)

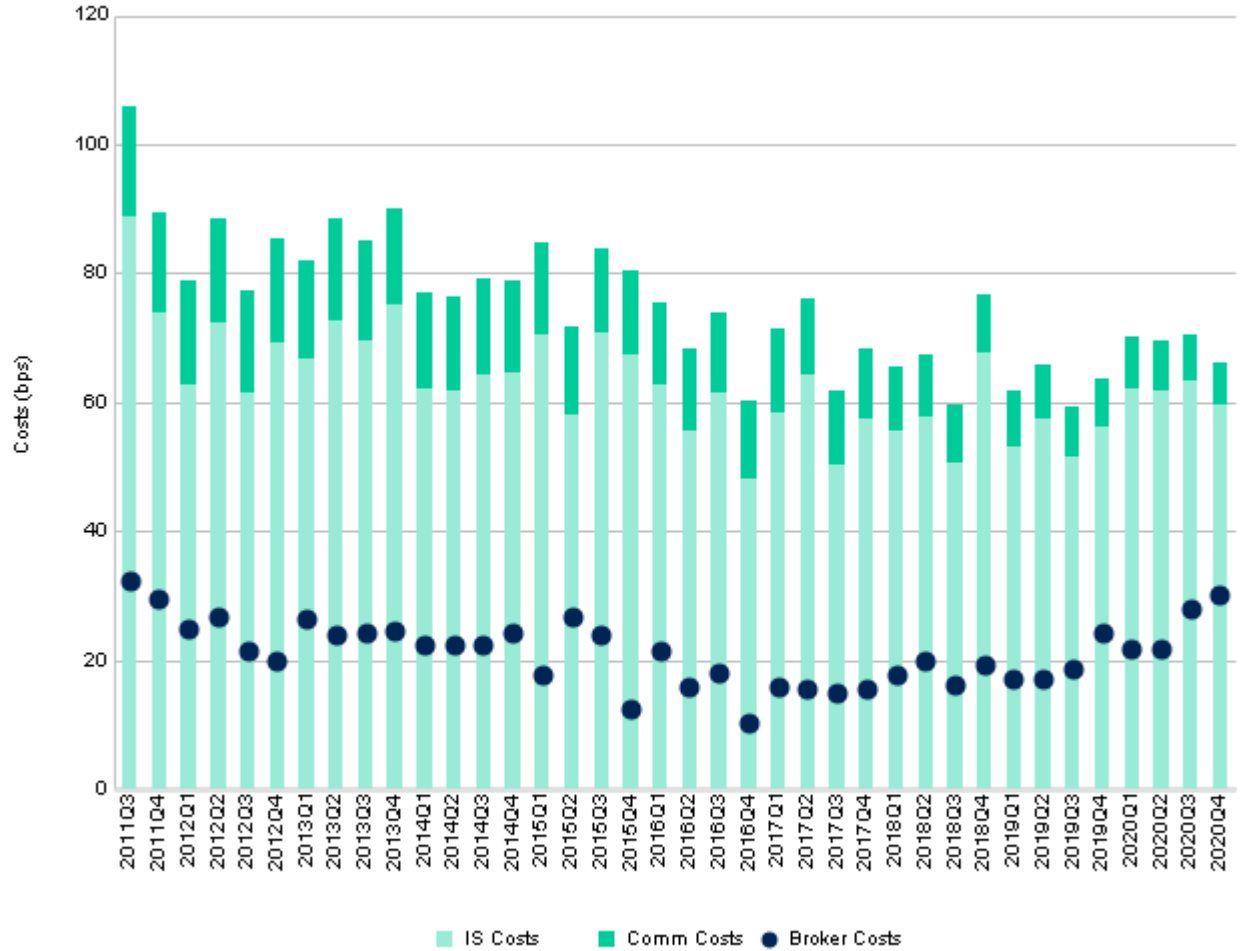
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	16,629
(2 , 4)	59,902
(4 , 6)	53,818
(6 , 8)	25,817
(8 , 10)	31,454
(10 , 12)	19,019
(12 , 14)	6,145
(14 , 16)	8,401
(16 , 18)	1,405
(18 , 20)	5,460
(20 , 22)	3,202
(22 , 24)	314
(24 , 26)	2,563
(26 , 28)	392
(28 , 30)	486
(30 , 32)	298
(32 , 34)	40
(34 , 36)	59
(36 , 38)	15
(38 , 40)	59
> 40	265
Total	235,743



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	9.8	286
Small Cap	7.5	3,244
Mid Cap	7.4	55,303
Large Cap	7.2	176,910
Total	7.2	235,743

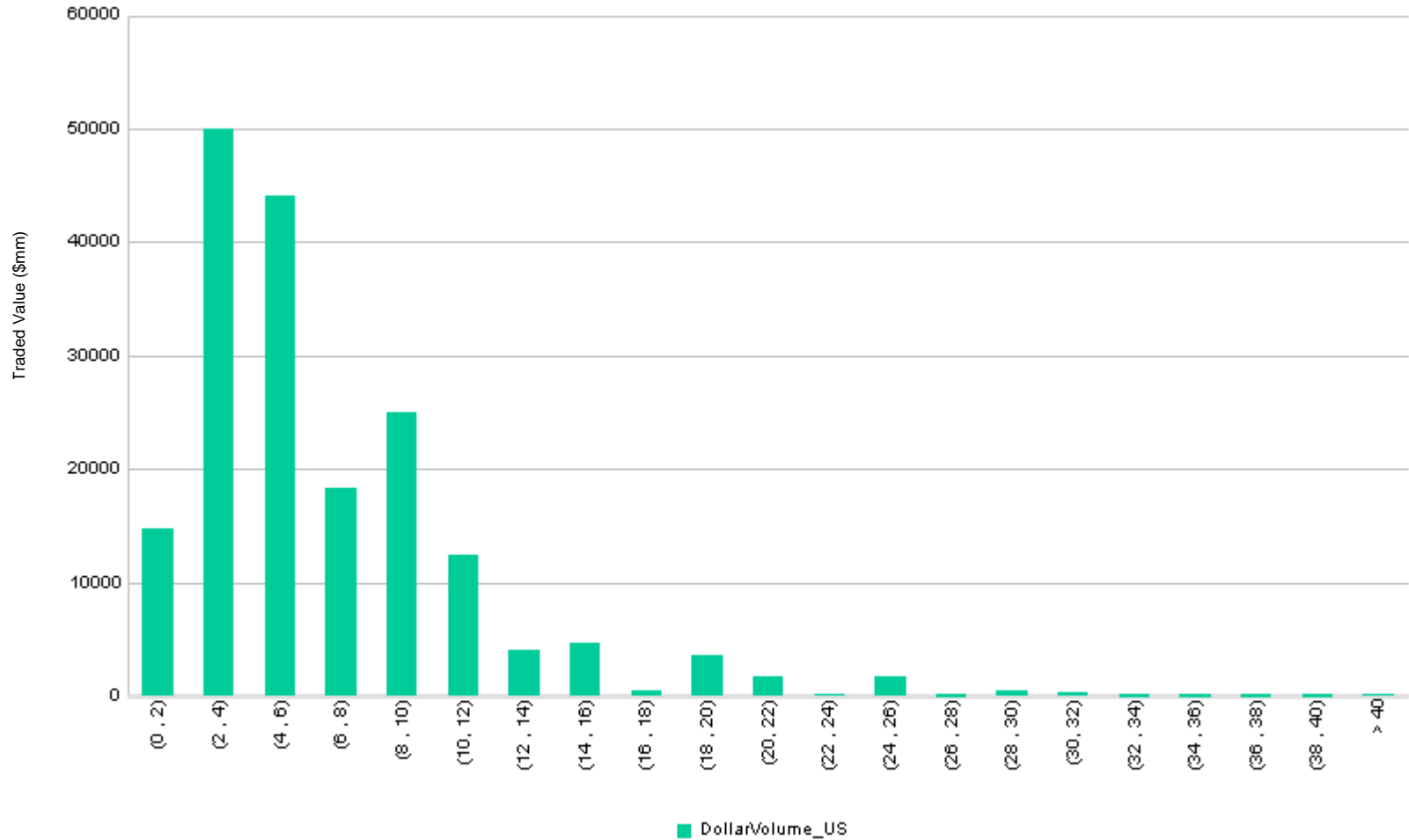
Emerging Asia (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2011Q3	88.8	17.0	105.8	32.4
2011Q4	73.8	15.8	89.6	29.7
2012Q1	62.9	15.9	78.7	24.9
2012Q2	72.5	15.9	88.5	26.9
2012Q3	61.4	15.9	77.3	21.6
2012Q4	69.4	15.9	85.3	20.0
2013Q1	66.8	15.3	82.1	26.4
2013Q2	72.8	15.8	88.6	24.1
2013Q3	69.7	15.5	85.2	24.2
2013Q4	75.1	15.0	90.0	24.6
2014Q1	62.1	15.1	77.1	22.5
2014Q2	61.8	14.7	76.5	22.4
2014Q3	64.3	15.0	79.3	22.3
2014Q4	64.6	14.5	79.0	24.2
2015Q1	70.4	14.3	84.7	17.7
2015Q2	58.1	13.7	71.8	26.9
2015Q3	70.9	12.9	83.8	24.1
2015Q4	67.4	12.9	80.3	12.4
2016Q1	62.6	12.9	75.5	21.4
2016Q2	55.5	12.8	68.3	15.9
2016Q3	61.4	12.6	74.0	18.1
2016Q4	48.0	12.3	60.4	10.2
2017Q1	58.5	13.1	71.6	16.0
2017Q2	64.4	11.9	76.3	15.6
2017Q3	50.3	11.5	61.8	15.1
2017Q4	57.6	10.7	68.3	15.7
2018Q1	55.6	10.0	65.6	17.6
2018Q2	57.8	9.5	67.3	20.0
2018Q3	50.6	9.0	59.7	16.3
2018Q4	67.6	9.1	76.7	19.4
2019Q1	53.1	8.6	61.7	17.3
2019Q2	57.4	8.3	65.8	17.2
2019Q3	51.6	7.6	59.2	18.8
2019Q4	56.1	7.8	63.8	24.2
2020Q1	62.1	8.0	70.2	21.7
2020Q2	61.9	7.6	69.5	21.8
2020Q3	63.5	7.0	70.5	28.1
2020Q4	59.6	6.7	66.3	30.3



Emerging Asia Commission (BPS)

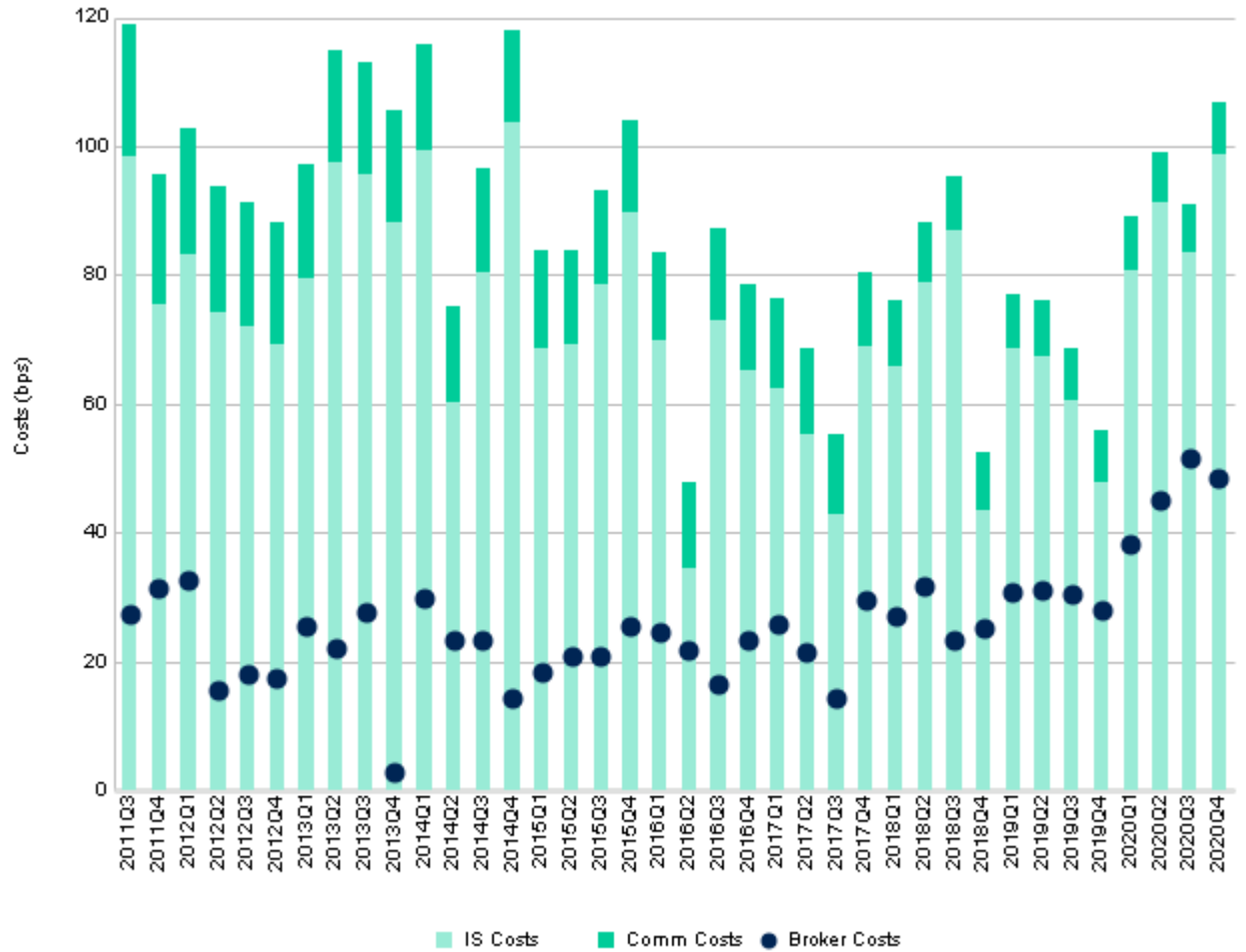
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	14,716
(2 , 4)	50,010
(4 , 6)	44,102
(6 , 8)	18,404
(8 , 10)	24,992
(10 , 12)	12,458
(12 , 14)	4,051
(14 , 16)	4,718
(16 , 18)	532
(18 , 20)	3,541
(20 , 22)	1,766
(22 , 24)	146
(24 , 26)	1,747
(26 , 28)	62
(28 , 30)	419
(30 , 32)	280
(32 , 34)	17
(34 , 36)	13
(36 , 38)	13
(38 , 40)	49
> 40	129
Total	182,167



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	9.9	236
Small Cap	7.3	2,466
Mid Cap	6.8	37,986
Large Cap	6.7	141,480
Total	6.7	182,167

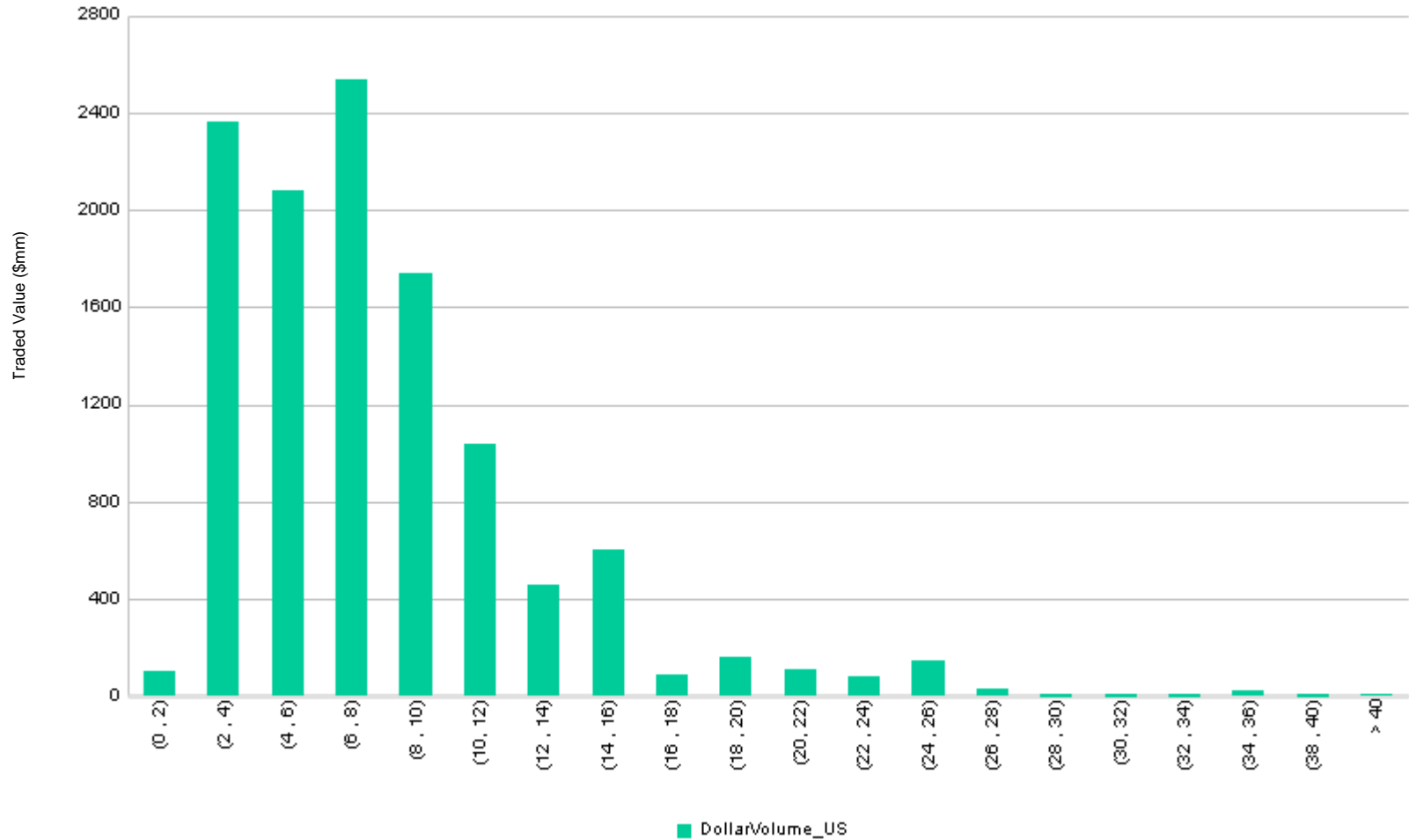
Emerging Europe (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2011Q3	98.4	20.4	118.8	27.3
2011Q4	75.6	20.0	95.6	31.3
2012Q1	83.2	19.6	102.8	32.8
2012Q2	74.4	19.4	93.8	15.7
2012Q3	72.1	19.3	91.4	18.2
2012Q4	69.4	18.8	88.2	17.6
2013Q1	79.4	17.7	97.1	25.4
2013Q2	97.4	17.5	114.9	22.0
2013Q3	95.7	17.5	113.1	27.6
2013Q4	88.3	17.4	105.7	2.8
2014Q1	99.4	16.6	116.0	30.0
2014Q2	60.2	15.0	75.2	23.3
2014Q3	80.6	16.1	96.7	23.3
2014Q4	103.8	14.1	118.0	14.2
2015Q1	68.5	15.3	83.8	18.4
2015Q2	69.3	14.7	83.9	20.9
2015Q3	78.5	14.7	93.2	21.0
2015Q4	89.7	14.5	104.2	25.5
2016Q1	69.8	13.7	83.5	24.6
2016Q2	34.4	13.5	47.8	21.9
2016Q3	73.1	14.3	87.4	16.5
2016Q4	65.2	13.4	78.6	23.4
2017Q1	62.3	14.2	76.6	25.8
2017Q2	55.2	13.3	68.5	21.6
2017Q3	42.9	12.6	55.4	14.4
2017Q4	69.0	11.6	80.6	29.7
2018Q1	66.0	10.2	76.2	27.2
2018Q2	79.0	9.3	88.3	31.9
2018Q3	87.0	8.5	95.5	23.2
2018Q4	43.6	9.0	52.6	25.3
2019Q1	68.7	8.4	77.1	30.8
2019Q2	67.5	8.7	76.2	31.1
2019Q3	60.6	8.1	68.6	30.6
2019Q4	47.9	7.9	55.8	28.1
2020Q1	80.8	8.3	89.1	38.3
2020Q2	91.3	7.8	99.1	45.0
2020Q3	83.6	7.4	90.9	51.6
2020Q4	98.9	8.0	106.9	48.4



Emerging Europe Commission (BPS)

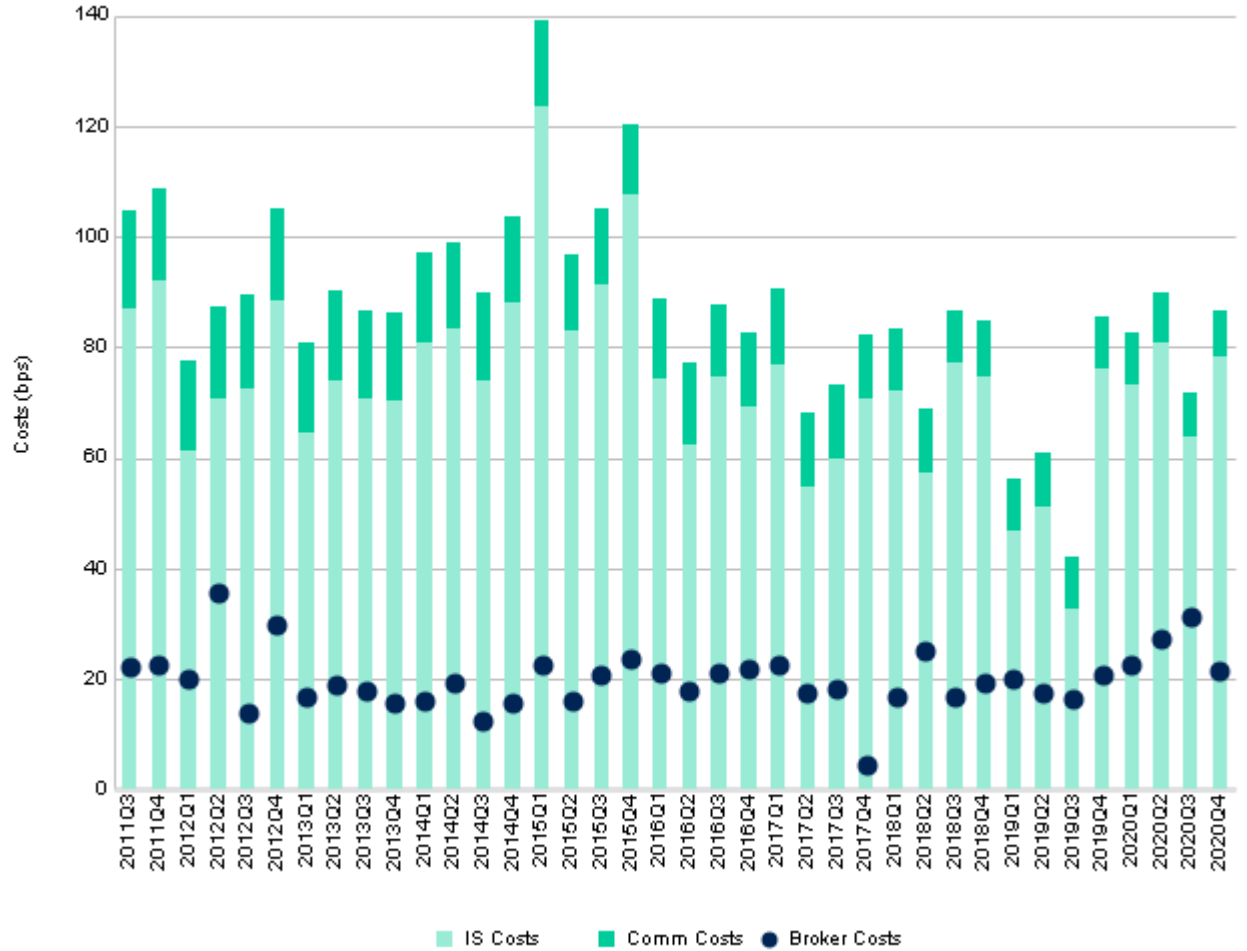
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	101
(2 , 4)	2,360
(4 , 6)	2,079
(6 , 8)	2,535
(8 , 10)	1,738
(10 , 12)	1,035
(12 , 14)	459
(14 , 16)	600
(16 , 18)	90
(18 , 20)	163
(20 , 22)	113
(22 , 24)	77
(24 , 26)	146
(26 , 28)	30
(28 , 30)	4
(30 , 32)	2
(32 , 34)	<1
(34 , 36)	21
(38 , 40)	<1
> 40	7
Total	11,561



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	6.6	21
Small Cap	6.3	250
Mid Cap	8.1	4,337
Large Cap	8.1	6,953
Total	8.0	11,561

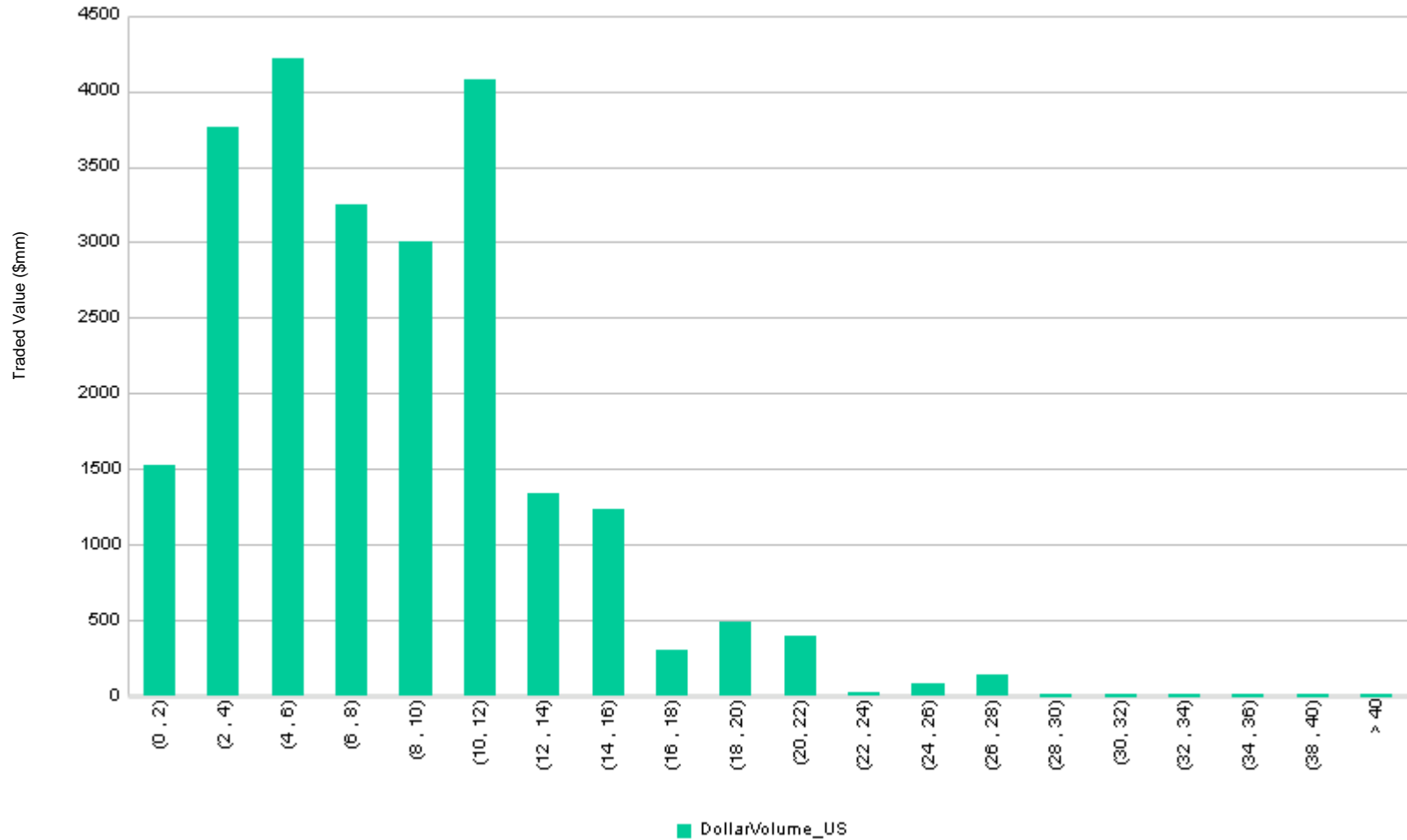
Latin America (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2011Q3	87.0	17.7	104.6	22.3
2011Q4	92.1	16.7	108.8	22.4
2012Q1	61.1	16.5	77.7	20.0
2012Q2	70.8	16.5	87.3	35.5
2012Q3	72.6	16.8	89.5	14.0
2012Q4	88.5	16.6	105.1	29.8
2013Q1	64.6	16.2	80.8	16.9
2013Q2	74.1	16.1	90.2	18.9
2013Q3	70.7	15.9	86.6	17.9
2013Q4	70.5	15.8	86.4	15.8
2014Q1	80.9	16.2	97.1	16.2
2014Q2	83.5	15.5	99.0	19.4
2014Q3	73.9	15.9	89.8	12.3
2014Q4	88.1	15.5	103.5	15.7
2015Q1	123.6	15.4	139.0	22.5
2015Q2	82.9	14.0	96.9	16.1
2015Q3	91.3	13.7	104.9	20.6
2015Q4	107.5	12.9	120.3	23.7
2016Q1	74.5	14.4	88.9	21.0
2016Q2	62.4	14.7	77.1	18.0
2016Q3	74.6	13.2	87.8	21.2
2016Q4	69.3	13.2	82.6	21.7
2017Q1	76.7	14.1	90.8	22.4
2017Q2	54.9	13.2	68.1	17.6
2017Q3	59.7	13.5	73.1	18.2
2017Q4	70.8	11.5	82.2	4.6
2018Q1	72.1	11.4	83.5	16.6
2018Q2	57.4	11.3	68.8	25.0
2018Q3	77.1	9.6	86.7	16.9
2018Q4	74.7	10.1	84.8	19.3
2019Q1	46.7	9.4	56.1	19.9
2019Q2	51.0	9.8	60.8	17.5
2019Q3	32.7	9.2	41.9	16.5
2019Q4	76.2	9.2	85.4	20.6
2020Q1	73.3	9.5	82.8	22.6
2020Q2	80.8	9.1	89.9	27.3
2020Q3	63.7	8.2	71.9	31.1
2020Q4	78.2	8.4	86.6	21.5



Latin America Commission (BPS)

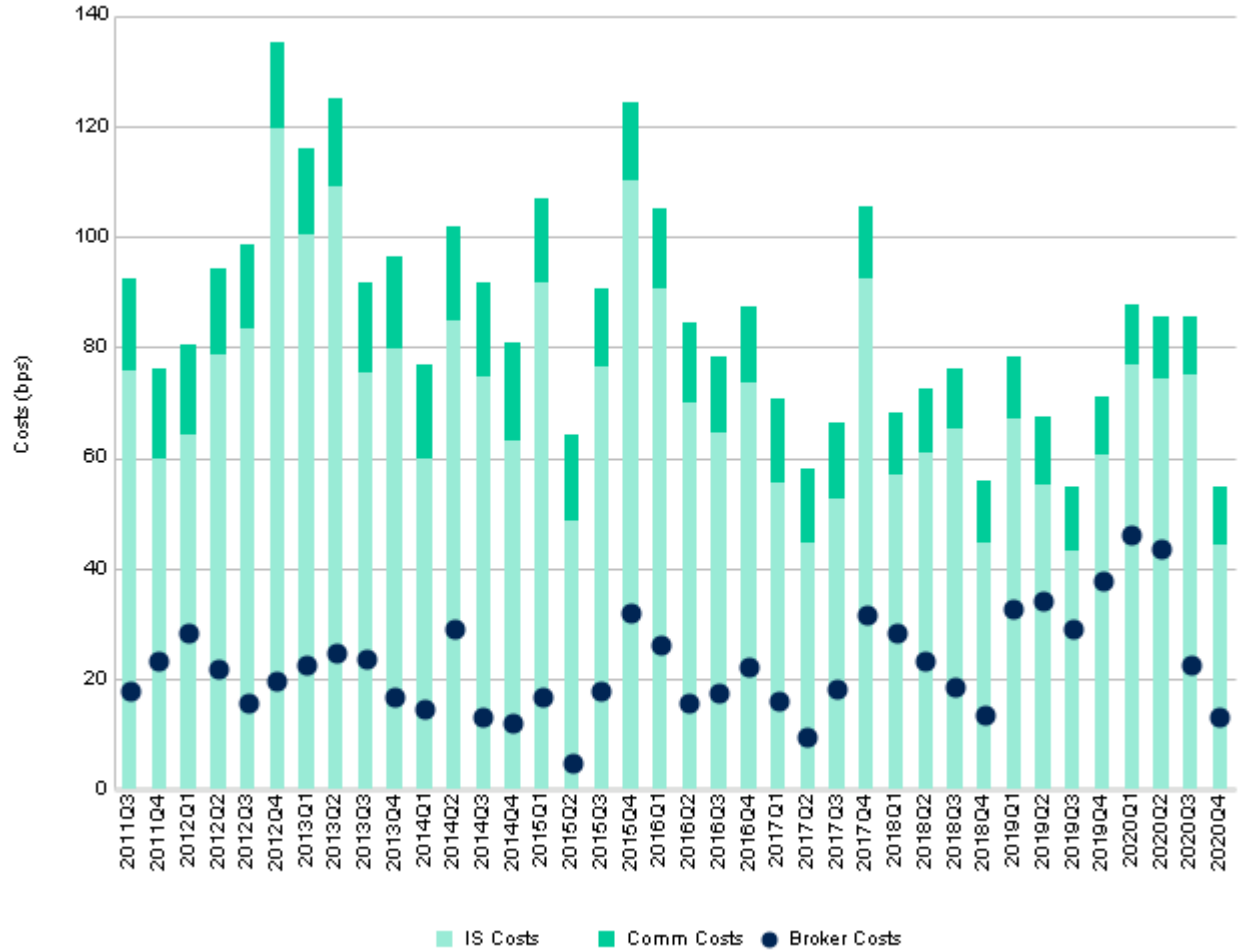
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	1,523
(2 , 4)	3,762
(4 , 6)	4,211
(6 , 8)	3,247
(8 , 10)	3,006
(10 , 12)	4,082
(12 , 14)	1,343
(14 , 16)	1,241
(16 , 18)	307
(18 , 20)	486
(20 , 22)	401
(22 , 24)	23
(24 , 26)	81
(26 , 28)	141
(28 , 30)	3
(30 , 32)	3
(32 , 34)	<1
(34 , 36)	3
(38 , 40)	2
> 40	1
Total	23,867



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	6.0	14
Small Cap	7.9	213
Mid Cap	8.2	7,878
Large Cap	8.4	15,762
Total	8.4	23,867

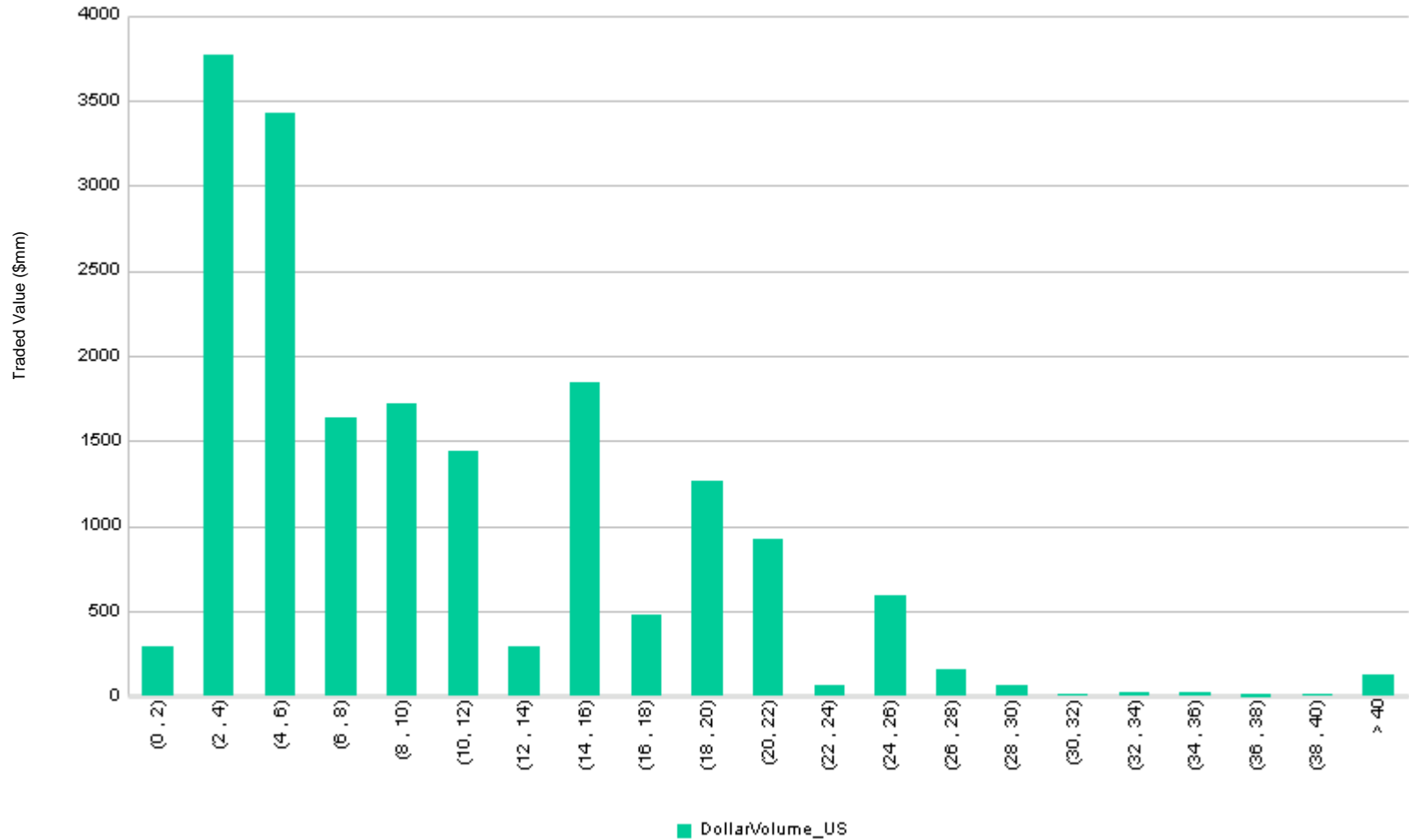
Africa and Middle East (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2011Q3	75.9	16.7	92.6	17.7
2011Q4	60.0	16.3	76.3	23.2
2012Q1	64.2	16.4	80.6	28.3
2012Q2	78.8	15.5	94.3	21.7
2012Q3	83.2	15.3	98.5	15.5
2012Q4	119.4	15.6	135.1	19.8
2013Q1	100.4	15.4	115.8	22.7
2013Q2	109.0	16.0	125.0	24.7
2013Q3	75.4	16.2	91.6	23.5
2013Q4	79.7	16.6	96.3	16.6
2014Q1	59.7	17.3	77.1	14.5
2014Q2	84.8	16.9	101.7	29.0
2014Q3	74.7	17.1	91.8	13.0
2014Q4	63.0	17.9	81.0	12.2
2015Q1	91.8	15.0	106.8	16.7
2015Q2	48.6	15.4	64.0	4.7
2015Q3	76.5	14.2	90.7	17.8
2015Q4	110.1	14.1	124.2	31.8
2016Q1	90.5	14.7	105.3	26.1
2016Q2	70.0	14.4	84.4	15.6
2016Q3	64.4	14.1	78.4	17.4
2016Q4	73.7	13.6	87.3	22.2
2017Q1	55.6	15.1	70.7	15.9
2017Q2	44.6	13.5	58.1	9.7
2017Q3	52.7	13.7	66.4	18.3
2017Q4	92.4	12.9	105.3	31.7
2018Q1	56.9	11.2	68.1	28.2
2018Q2	60.9	11.5	72.4	23.2
2018Q3	65.3	10.9	76.2	18.4
2018Q4	44.6	11.1	55.7	13.5
2019Q1	67.0	11.1	78.1	32.6
2019Q2	55.2	12.4	67.6	34.2
2019Q3	43.1	11.8	54.9	29.2
2019Q4	60.4	10.7	71.1	37.9
2020Q1	76.7	10.9	87.6	46.2
2020Q2	74.3	11.1	85.5	43.5
2020Q3	75.1	10.4	85.4	22.5
2020Q4	44.4	10.3	54.7	13.1



Africa and Middle East Commission (BPS)

Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	289
(2 , 4)	3,769
(4 , 6)	3,426
(6 , 8)	1,632
(8 , 10)	1,719
(10 , 12)	1,445
(12 , 14)	291
(14 , 16)	1,841
(16 , 18)	475
(18 , 20)	1,269
(20 , 22)	922
(22 , 24)	67
(24 , 26)	588
(26 , 28)	159
(28 , 30)	60
(30 , 32)	12
(32 , 34)	22
(34 , 36)	22
(36 , 38)	2
(38 , 40)	9
> 40	128
Total	18,148



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	16.4	16
Small Cap	9.3	315
Mid Cap	9.9	5,102
Large Cap	10.5	12,716
Total	10.3	18,148

Appendix

Region	Country	Region	Country	Region	Country
Asia Pacific ex Japan	Australia	Europe ex UK	Austria	Middle East and Africa	Bahrain
Asia Pacific ex Japan	Hong Kong	Europe ex UK	Belgium	Middle East and Africa	Egypt
Asia Pacific ex Japan	New Zealand	Europe ex UK	Cyprus	Middle East and Africa	Israel
Asia Pacific ex Japan	Singapore	Europe ex UK	Denmark	Middle East and Africa	Jordan
Emerging Asia	Bangladesh	Europe ex UK	Finland	Middle East and Africa	Kenya
Emerging Asia	China	Europe ex UK	France	Middle East and Africa	Kuwait
Emerging Asia	India	Europe ex UK	Germany	Middle East and Africa	Morocco
Emerging Asia	Indonesia	Europe ex UK	Greece	Middle East and Africa	Nigeria
Emerging Asia	Kazakhstan	Europe ex UK	Ireland	Middle East and Africa	Oman
Emerging Asia	Malaysia	Europe ex UK	Italy	Middle East and Africa	Qatar
Emerging Asia	Pakistan	Europe ex UK	Luxembourg	Middle East and Africa	Saudi Arabia
Emerging Asia	Philippines	Europe ex UK	Netherlands	Middle East and Africa	South Africa
Emerging Asia	South Korea	Europe ex UK	Norway	Middle East and Africa	Tunisia
Emerging Asia	Sri Lanka	Europe ex UK	Portugal	Middle East and Africa	UAE
Emerging Asia	Taiwan	Europe ex UK	Spain	North America ex US	Canada
Emerging Asia	Thailand	Europe ex UK	Sweden	United Kingdom	United Kingdom
Emerging Asia	Vietnam	Europe ex UK	Switzerland	United States	United States
Emerging Europe	Bulgaria	Japan	Japan		
Emerging Europe	Croatia	Latin America	Argentina		
Emerging Europe	Czech	Latin America	Brazil		
Emerging Europe	Estonia	Latin America	Chile		
Emerging Europe	Hungary	Latin America	Colombia		
Emerging Europe	Lithuania	Latin America	Mexico		
Emerging Europe	Poland	Latin America	Peru		
Emerging Europe	Romania				
Emerging Europe	Russia				
Emerging Europe	Slovenia				
Emerging Europe	Turkey				

Definitions

Traded Value (USD Millions) Principal value of all trades executed, shown in Millions (USD) found in Virtu's Peer Universe

Trade Value (CAD Millions) Principal value of all trades executed, shown in Millions (CAD) found in Virtu's Peer Universe

Average Commission (BPS) $((\text{Shares Executed} * \text{TradePrice (USD)} * \text{CommissionPerShare(BPS)}) / (\text{SharesExecuted} * \text{tradePrice (USD)}))$

Average Commission (CAD CPS) $((\text{Shares Executed} * \text{CommissionPerShare (CAD CPS)}) / (\text{Shares Executed}))$

Average Commission (USD CPS) $((\text{Shares Executed} * \text{CommissionPerShare (USD CPS)}) / (\text{Shares Executed}))$

IS Cost (BPS) The difference, or slippage between the arrival price and the execution price for a trade.

Total Cost (BPS) The sum of Average Commission (BPS) and IS Cost (BPS)

Broker Cost (BPS) The difference, or slippage, between the broker arrival price and the execution price for a trade.

* Daily exchange rate is used in all calculations

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