

Global Cost Review

Q4 2019

Results as of 01/28/2020



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Average Regional Commission by Market Capitalization

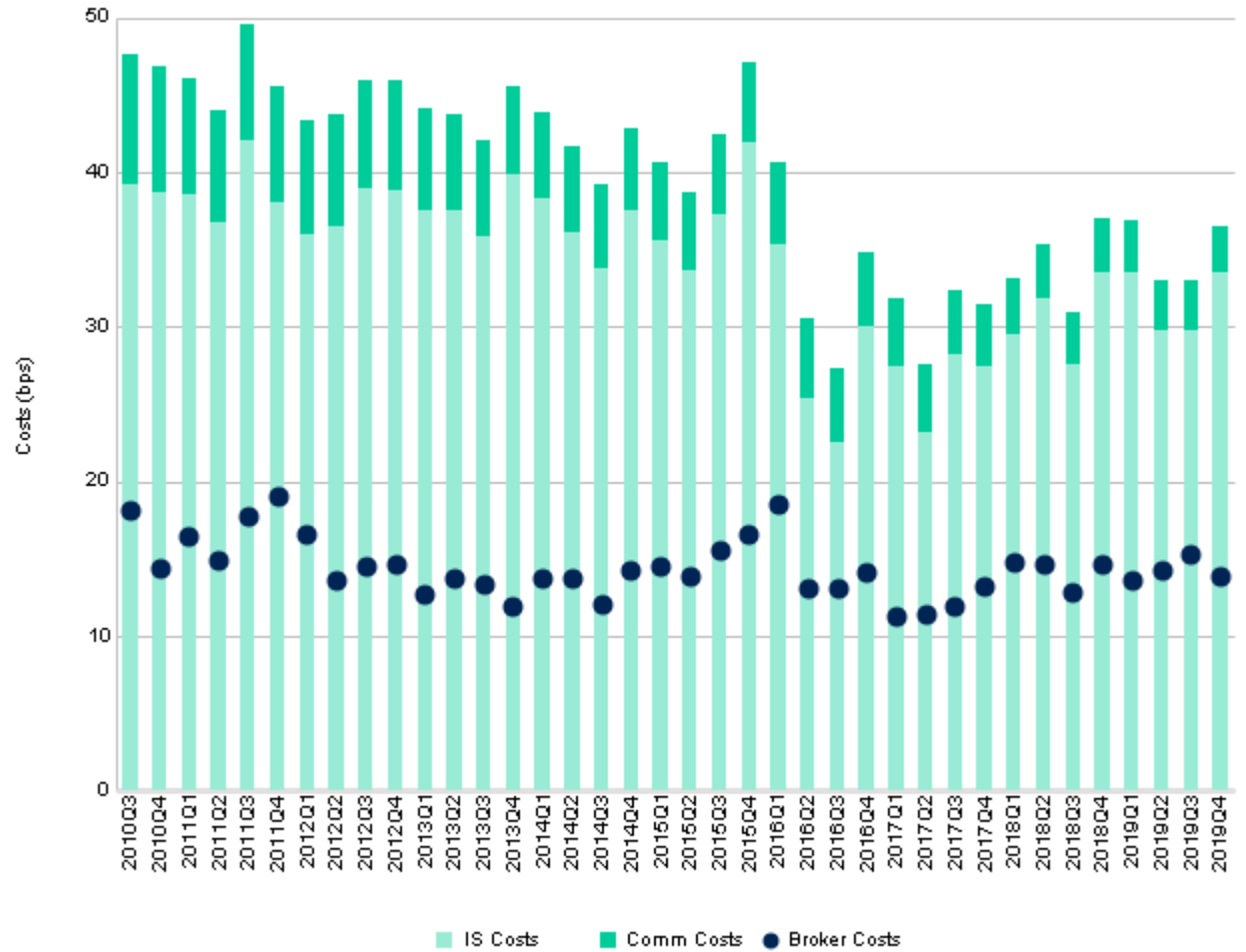
Region		Avg. Commission (BPS)				
		2019Q4	2019Q3	2019Q2	2019Q1	1Q19-4Q19
United States	Micro Cap	9.8	12.5	9.8	15.9	11.6
	Small Cap	10.6	11.3	10.0	11.0	10.7
	Mid Cap	5.1	5.6	5.3	5.6	5.4
	Large Cap	2.5	2.7	2.7	2.9	2.7
	Total	3.0	3.2	3.2	3.4	3.2
United Kingdom	Micro Cap	8.4	7.9	7.5	5.6	7.3
	Small Cap	7.4	7.3	7.2	7.9	7.5
	Mid Cap	5.6	5.5	5.5	5.8	5.6
	Large Cap	5.1	4.6	4.8	4.9	4.9
	Total	5.2	4.8	4.9	5.1	5.0
Japan	Micro Cap	4.2	4.2	4.1	3.8	4.1
	Small Cap	3.9	4.3	4.6	4.7	4.4
	Mid Cap	4.2	4.4	4.4	4.6	4.4
	Large Cap	4.4	4.3	4.5	4.8	4.5
	Total	4.4	4.3	4.5	4.7	4.5
Canada	Micro Cap	11.1	12.7	15.3	10.4	11.9
	Small Cap	16.3	19.1	15.3	16.9	16.9
	Mid Cap	9.5	9.7	9.2	10.3	9.7
	Large Cap	4.1	4.5	4.5	5.2	4.6
	Total	6.0	6.3	6.2	7.0	6.4
Europe ex UK	Micro Cap	6.0	5.9	4.4	4.9	5.1
	Small Cap	5.4	5.4	6.0	6.4	5.8
	Mid Cap	5.5	5.1	5.2	5.4	5.3
	Large Cap	4.5	4.5	4.7	4.8	4.7
	Total	4.7	4.6	4.8	4.9	4.7
Asia Pacific ex Japan	Micro Cap	10.2	7.4	9.1	9.0	9.0
	Small Cap	7.1	7.2	7.2	7.6	7.3
	Mid Cap	6.8	6.8	7.4	7.2	7.1
	Large Cap	6.1	6.1	6.4	6.6	6.3
	Total	6.3	6.2	6.6	6.8	6.5
Emerging Markets	Micro Cap	9.6	9.3	9.3	11.4	10.2
	Small Cap	8.1	8.0	7.8	8.5	8.2
	Mid Cap	8.2	8.4	9.0	8.9	8.6
	Large Cap	8.3	8.4	9.1	9.0	8.7
	Total	8.3	8.4	9.1	9.0	8.7

Region		Avg. Commission (BPS)				
		2019Q4	2019Q3	2019Q2	2019Q1	1Q19-4Q19
Emerging Asia	Micro Cap	9.0	9.0	8.7	11.2	9.9
	Small Cap	8.0	7.6	7.5	8.1	7.9
	Mid Cap	7.6	7.6	8.3	8.3	8.0
	Large Cap	7.8	7.6	8.3	8.7	8.1
	Total	7.8	7.6	8.3	8.6	8.1
Emerging Europe	Micro Cap	7.2	9.0	8.5	10.3	8.8
	Small Cap	6.4	7.9	7.6	7.5	7.3
	Mid Cap	7.8	8.1	9.1	8.4	8.4
	Large Cap	8.1	8.0	8.5	8.4	8.3
	Total	7.9	8.1	8.7	8.4	8.3
Latin America	Micro Cap	8.3	10.8	13.2	10.0	10.7
	Small Cap	9.2	9.9	8.4	11.2	9.8
	Mid Cap	9.3	9.1	9.7	9.7	9.5
	Large Cap	9.2	9.2	9.8	9.2	9.4
	Total	9.2	9.2	9.8	9.4	9.4
Middle East and Africa	Micro Cap	19.5	14.9	17.8	16.4	17.2
	Small Cap	10.5	11.8	11.1	11.6	11.3
	Mid Cap	10.5	11.5	11.2	11.4	11.2
	Large Cap	10.8	11.9	12.8	11.0	11.8
	Total	10.7	11.8	12.4	11.1	11.6

Region		Avg. Commission (CPS)				
		2019Q4	2019Q3	2019Q2	2019Q1	1Q19-4Q19
United States	Micro Cap	0.8	0.7	0.6	0.9	0.7
	Small Cap	1.0	0.9	0.9	1.0	1.0
	Mid Cap	1.2	1.3	1.3	1.3	1.3
	Large Cap	1.5	1.6	1.7	1.7	1.6
	Total	1.4	1.5	1.5	1.5	1.5
Canada	Micro Cap	0.8	0.5	0.4	0.5	0.5
	Small Cap	1.1	0.8	0.8	0.9	0.8
	Mid Cap	1.5	1.1	1.0	1.1	1.1
	Large Cap	1.9	1.5	1.4	1.5	1.5
	Total	1.2	1.2	1.1	1.2	1.2

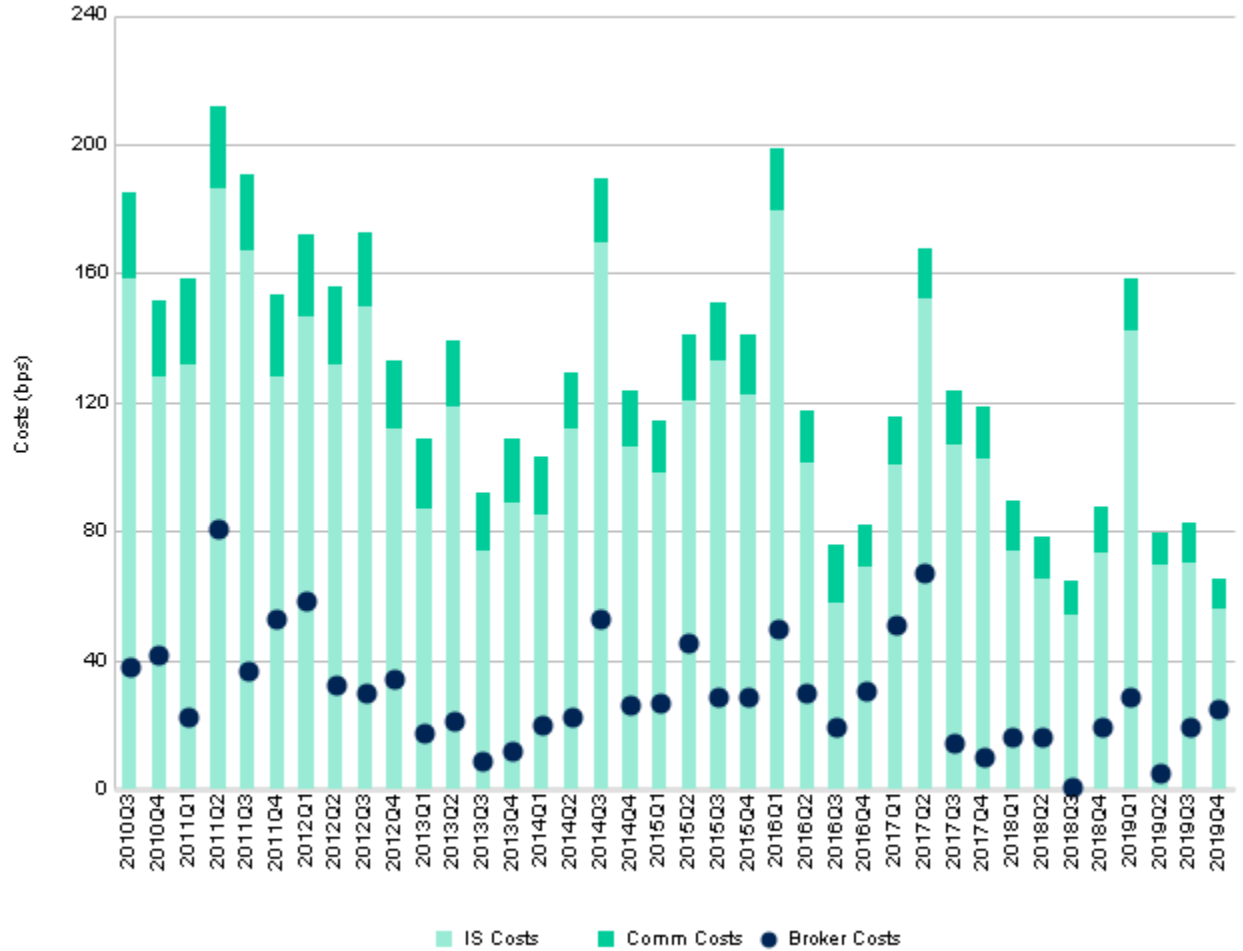
United States (bps)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2010Q3	39.2	8.4	47.3	18.1
2010Q4	38.7	8.1	46.7	14.4
2011Q1	38.6	7.5	46.1	16.4
2011Q2	36.8	7.2	43.9	14.9
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



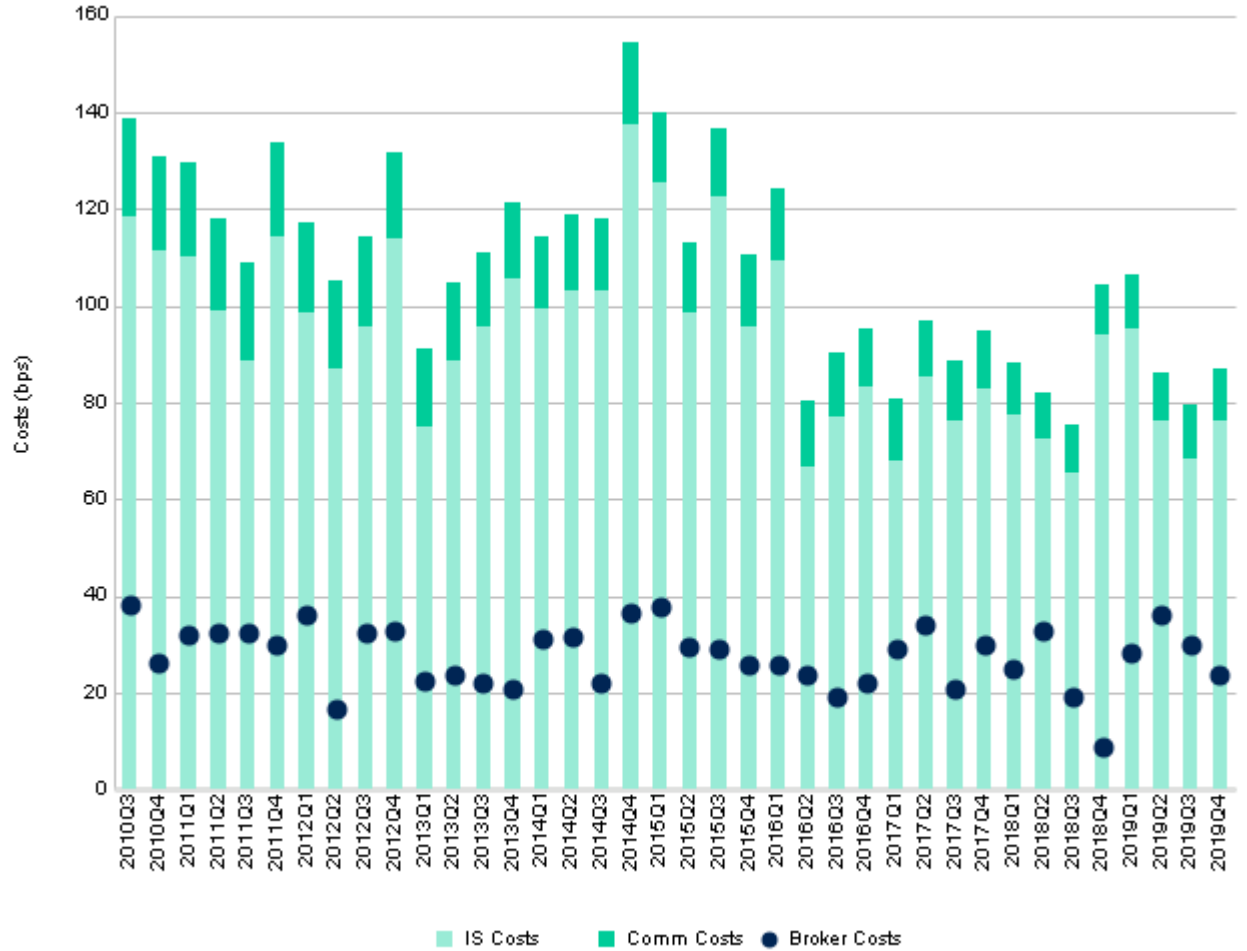
United States - Micro Cap (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2010Q3	158.5	26.8	185.2	38.0
2010Q4	128.1	23.6	151.7	41.7
2011Q1	131.9	26.3	158.2	22.6
2011Q2	186.1	25.6	211.7	80.8
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



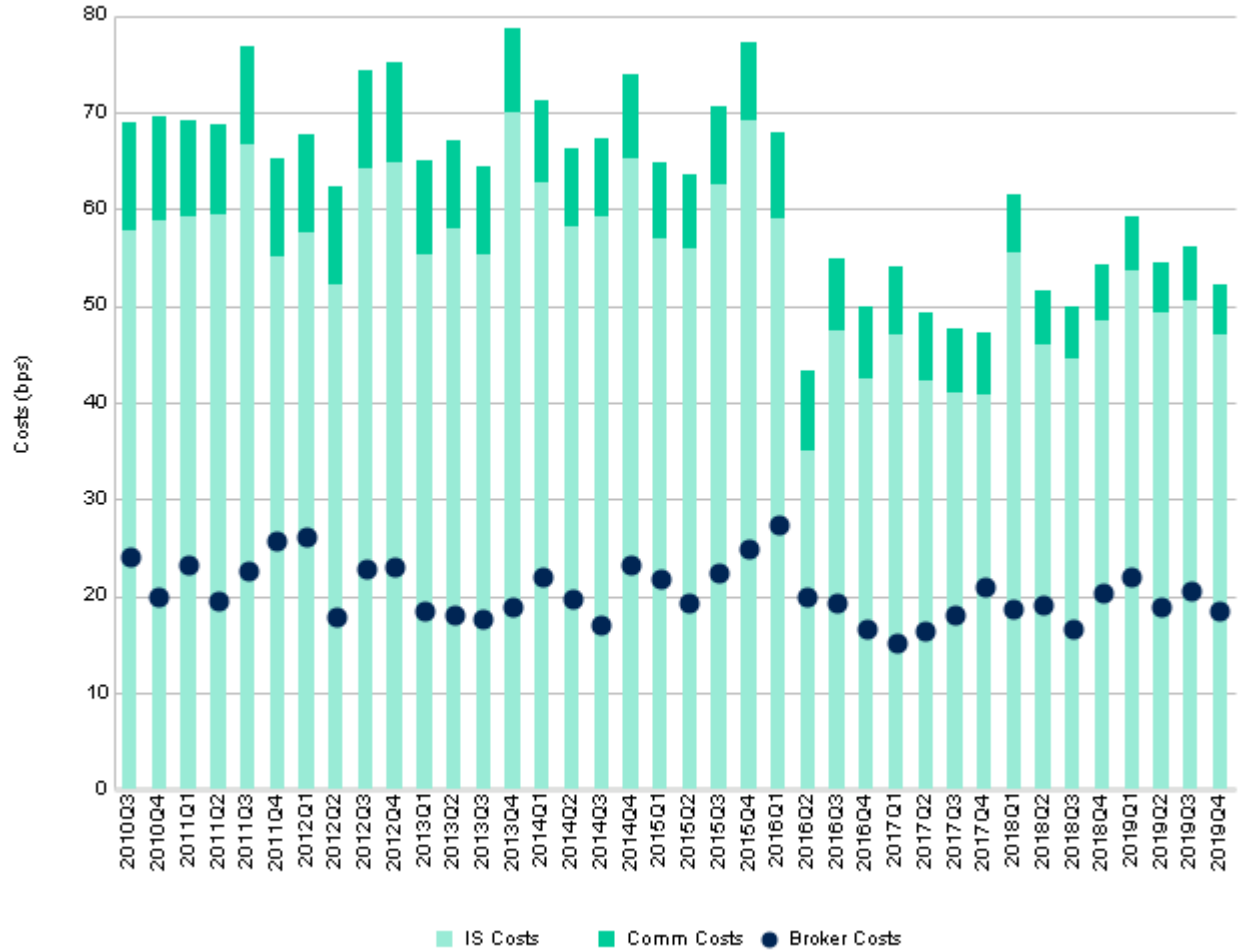
United States - Small Cap (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2010Q3	118.5	20.4	138.9	38.3
2010Q4	111.4	19.3	130.6	26.1
2011Q1	110.1	19.5	129.6	32.0
2011Q2	99.0	19.2	118.2	32.5
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



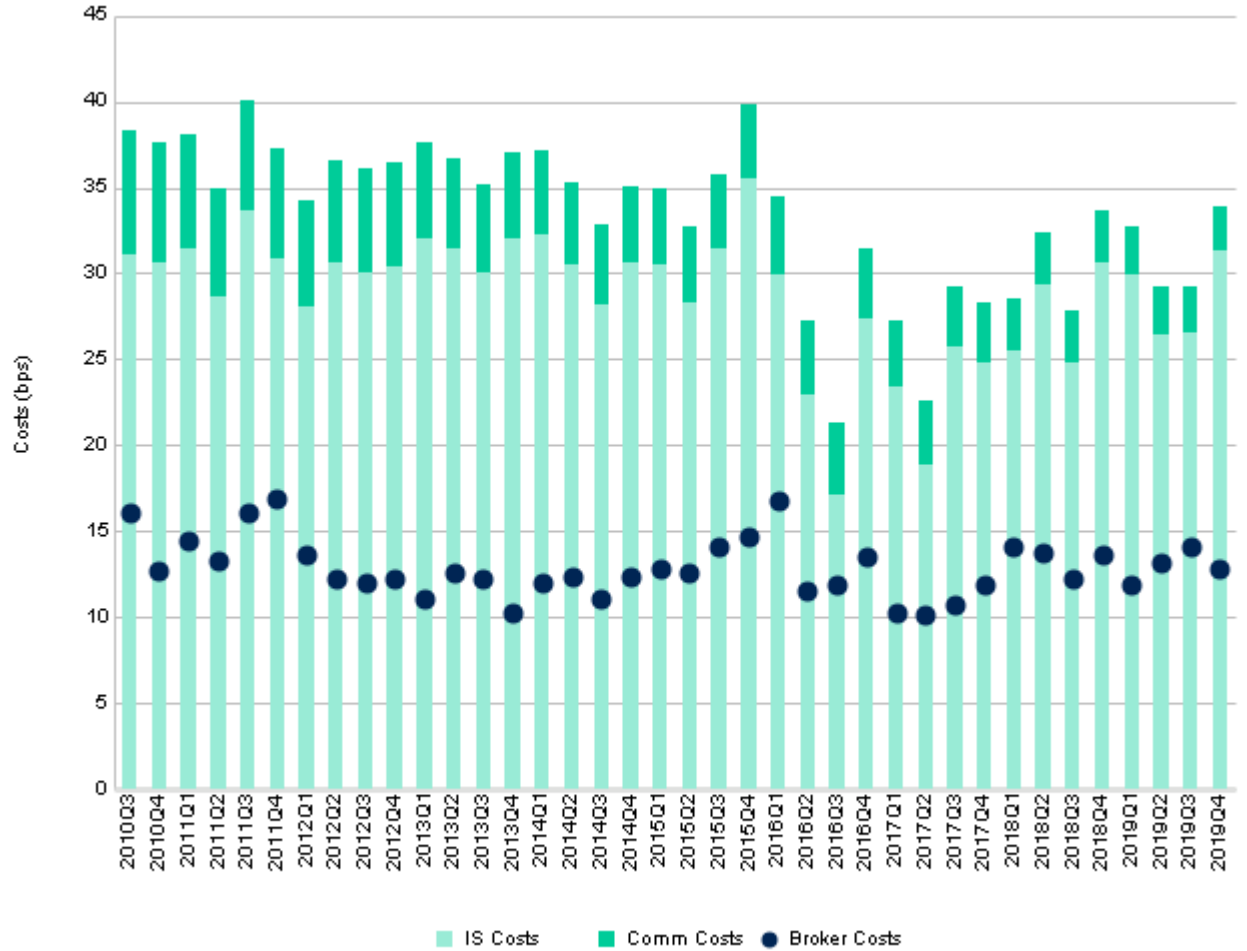
United States - Mid Cap (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2010Q3	57.8	11.1	68.8	24.0
2010Q4	58.9	10.6	69.4	20.0
2011Q1	59.2	10.0	69.2	23.2
2011Q2	59.4	9.4	68.8	19.5
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



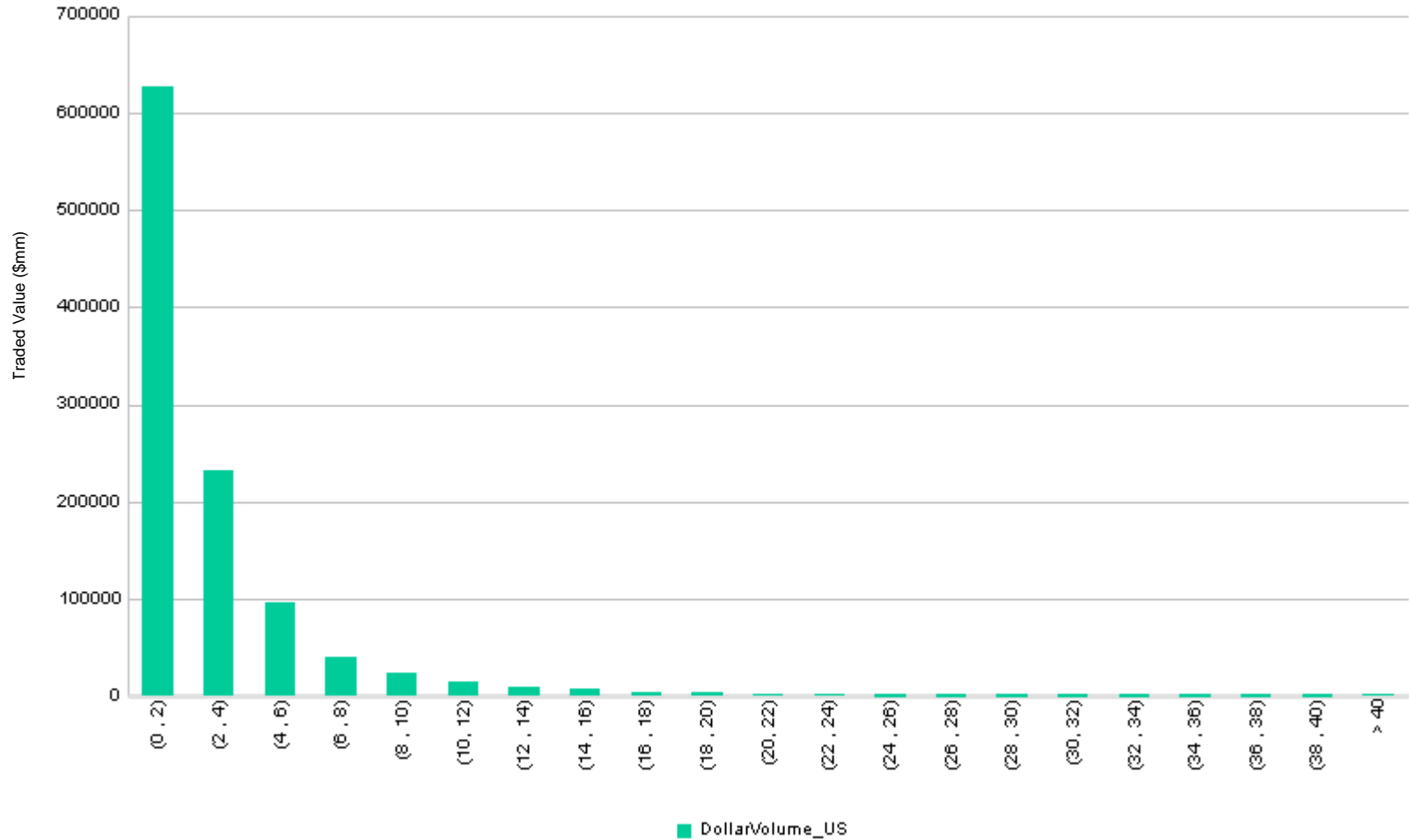
United States - Large Cap (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2010Q3	31.1	7.2	38.4	16.1
2010Q4	30.6	7.0	37.7	12.7
2011Q1	31.5	6.6	38.1	14.5
2011Q2	28.7	6.3	35.0	13.3
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



United States Commission (bps)

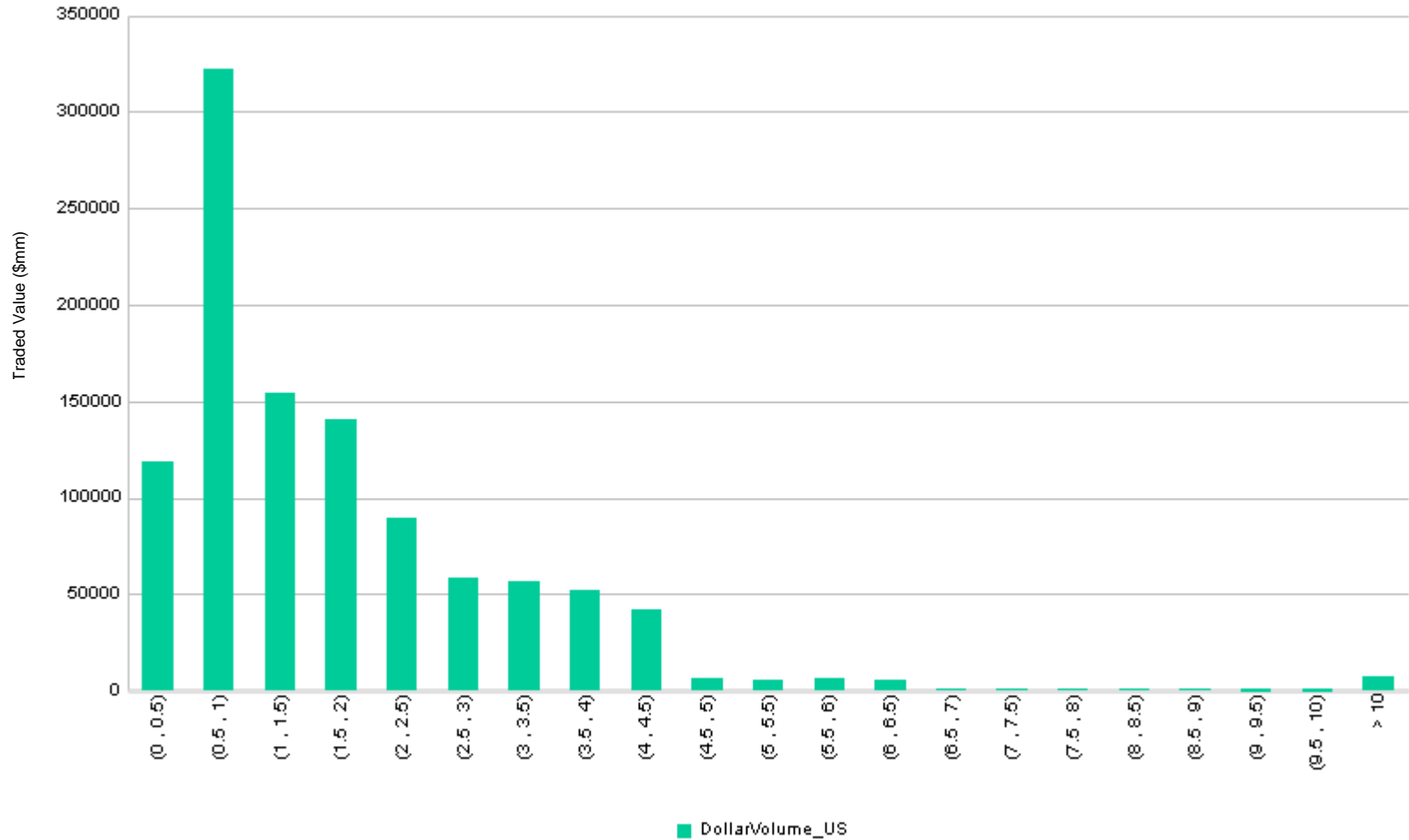
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	627,655
(2 , 4)	232,134
(4 , 6)	96,013
(6 , 8)	40,146
(8 , 10)	24,269
(10 , 12)	15,233
(12 , 14)	9,667
(14 , 16)	7,203
(16 , 18)	4,055
(18 , 20)	3,345
(20 , 22)	2,514
(22 , 24)	1,985
(24 , 26)	1,142
(26 , 28)	1,144
(28 , 30)	888
(30 , 32)	579
(32 , 34)	658
(34 , 36)	482
(36 , 38)	361
(38 , 40)	324
> 40	2,449
Total	1,072,247



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	9.8	1,932
Small Cap	10.6	9,345
Mid Cap	5.1	175,035
Large Cap	2.5	885,934
Total	3.0	1,072,247

United States Commission (CPS)

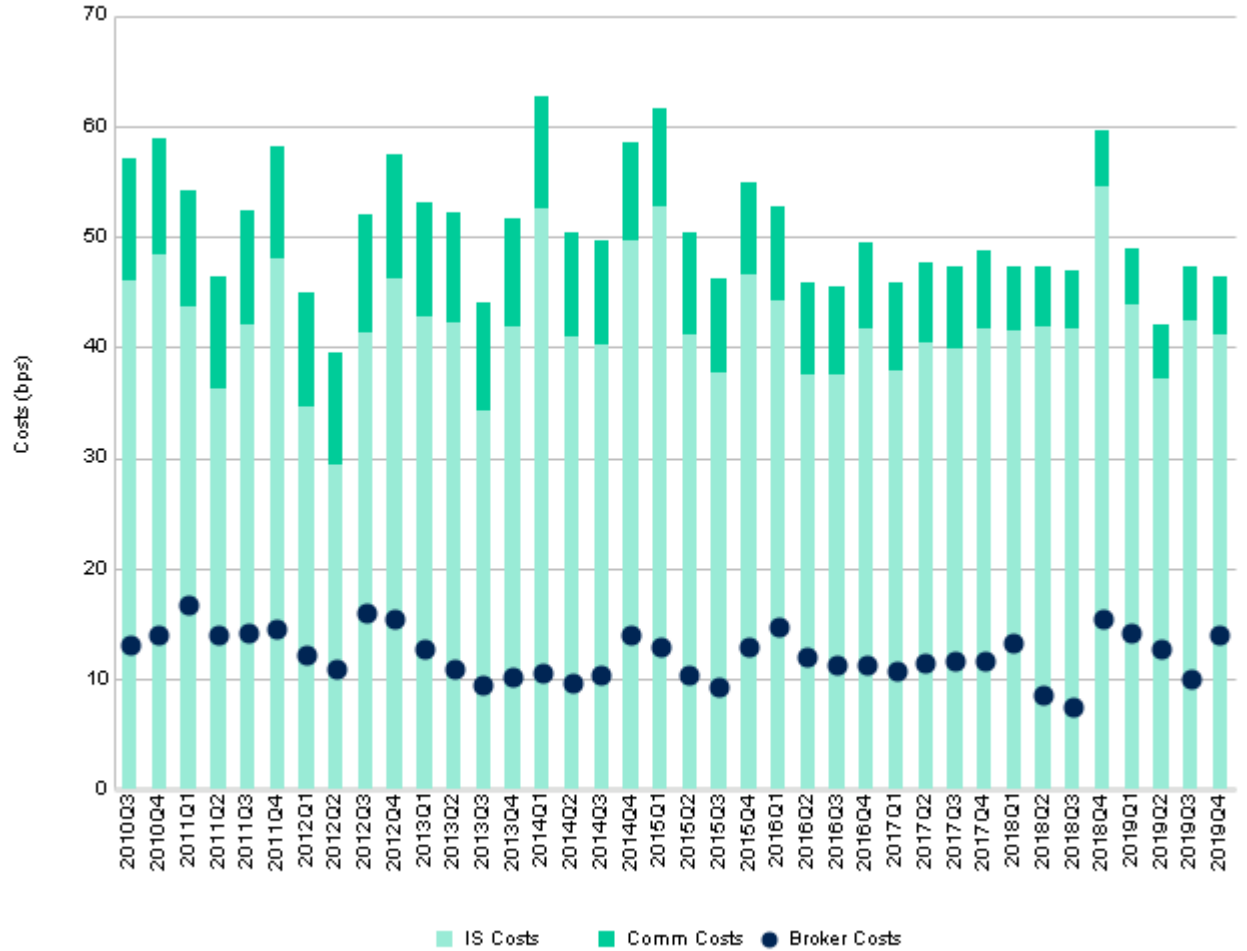
Commission (CPS)	Traded Value (USD Millions)
(0 , 0.5)	119,029
(0.5 , 1)	321,865
(1 , 1.5)	154,811
(1.5 , 2)	140,875
(2 , 2.5)	90,033
(2.5 , 3)	58,508
(3 , 3.5)	56,366
(3.5 , 4)	52,056
(4 , 4.5)	41,891
(4.5 , 5)	6,997
(5 , 5.5)	5,871
(5.5 , 6)	6,296
(6 , 6.5)	5,315
(6.5 , 7)	842
(7 , 7.5)	1,036
(7.5 , 8)	735
(8 , 8.5)	781
(8.5 , 9)	644
(9 , 9.5)	484
(9.5 , 10)	392
> 10	7,419
Total	1,072,247



Market Cap	Avg Commission (CPS)	Traded Value (USD Millions)
Micro Cap	0.8	1,932
Small Cap	1.0	9,345
Mid Cap	1.2	175,035
Large Cap	1.5	885,934
Total	1.4	1,072,247

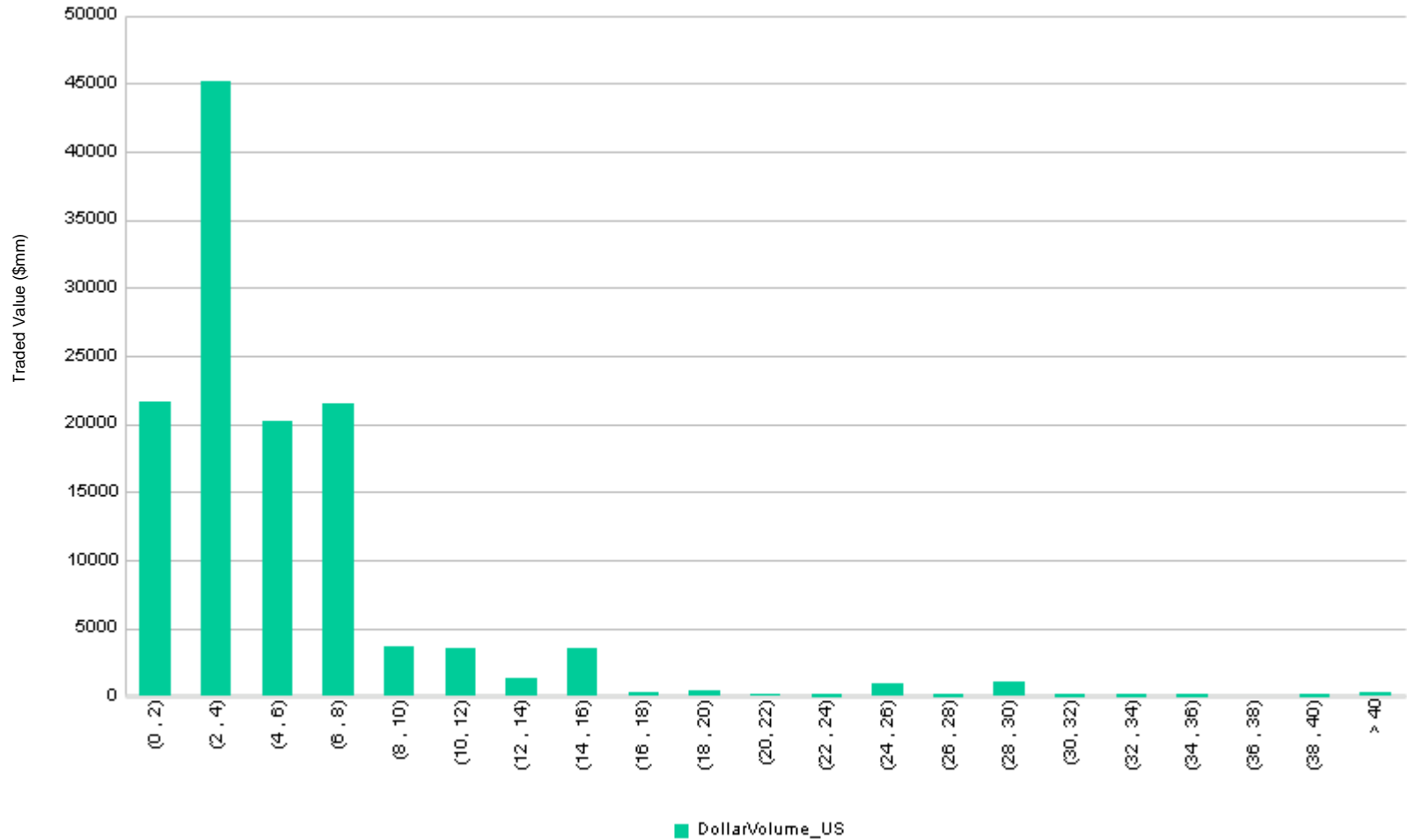
United Kingdom (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker_BPS
2010Q3	46.1	11.0	57.1	13.1
2010Q4	48.4	10.5	59.0	13.9
2011Q1	43.6	10.6	54.2	16.7
2011Q2	36.2	10.2	46.4	13.9
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



United Kingdom Commission (BPS)

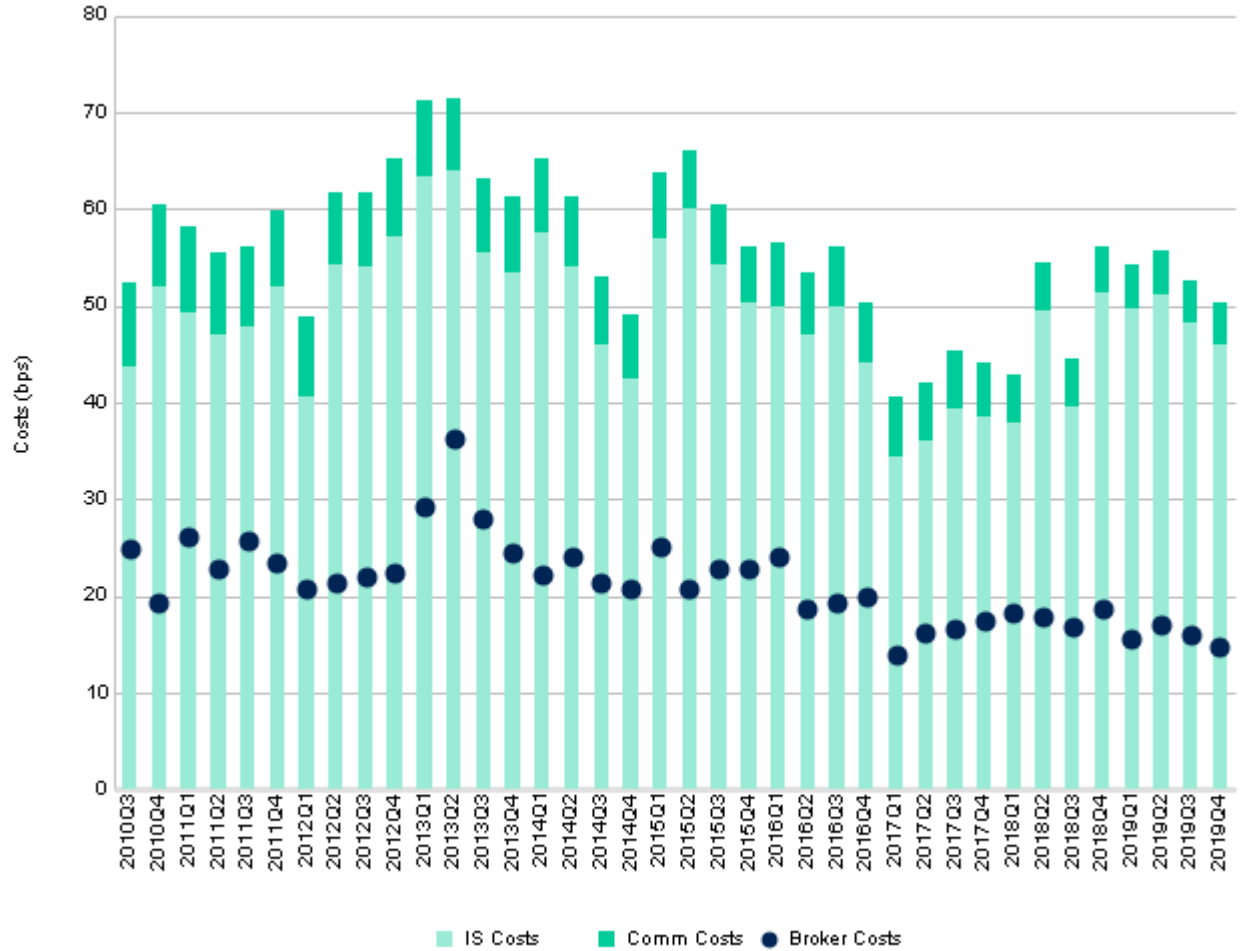
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	21,615
(2 , 4)	45,118
(4 , 6)	20,252
(6 , 8)	21,487
(8 , 10)	3,636
(10 , 12)	3,469
(12 , 14)	1,312
(14 , 16)	3,556
(16 , 18)	302
(18 , 20)	379
(20 , 22)	201
(22 , 24)	44
(24 , 26)	943
(26 , 28)	8
(28 , 30)	1,075
(30 , 32)	58
(32 , 34)	23
(34 , 36)	43
(36 , 38)	<1
(38 , 40)	4
> 40	273
Total	123,799



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	8.4	185
Small Cap	7.4	1,309
Mid Cap	5.6	23,615
Large Cap	5.1	98,691
Total	5.2	123,799

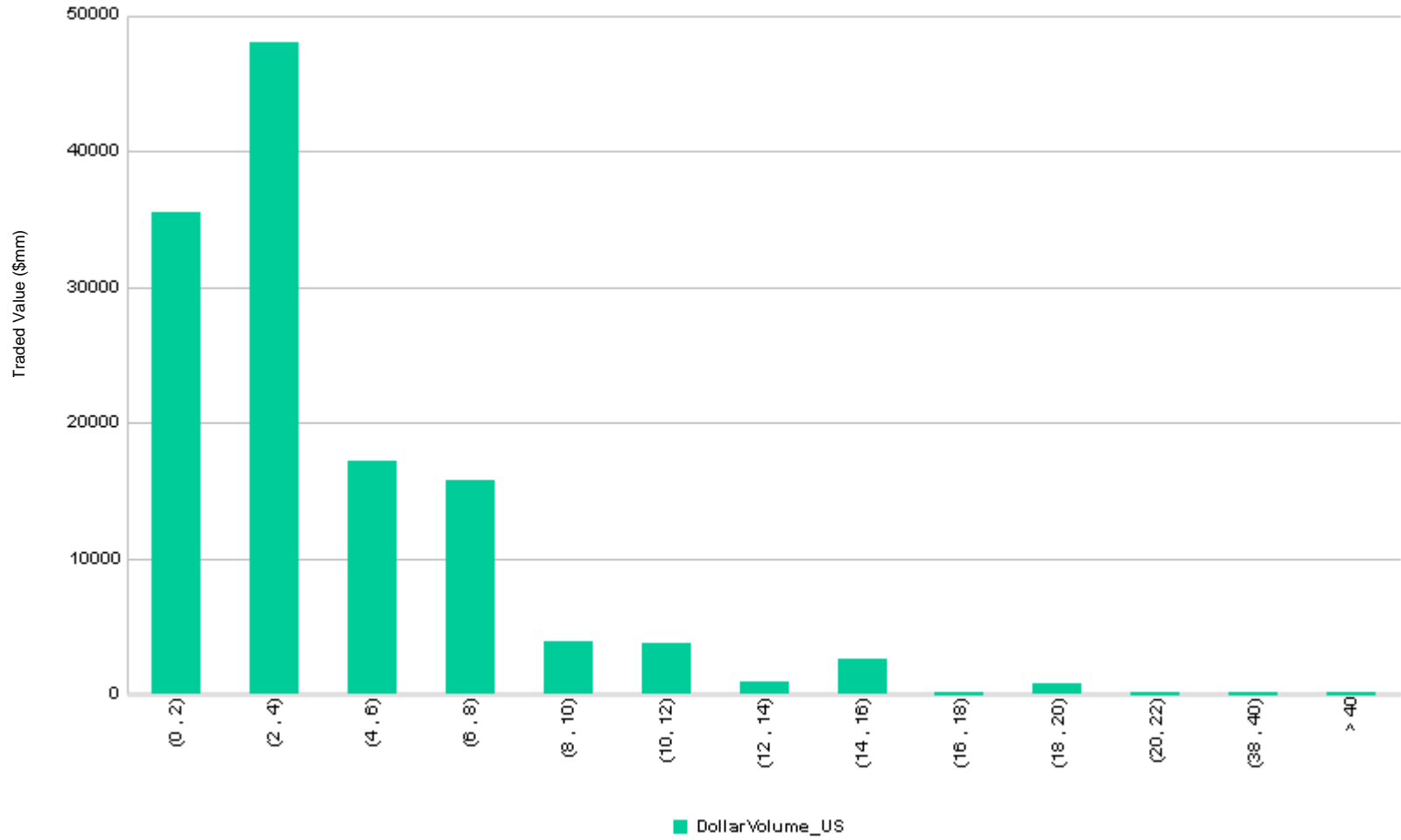
Japan (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2010Q3	43.7	8.7	52.4	24.9
2010Q4	52.0	8.5	60.5	19.3
2011Q1	49.2	9.0	58.2	26.1
2011Q2	47.1	8.4	55.5	22.9
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



Japan Commission (BPS)

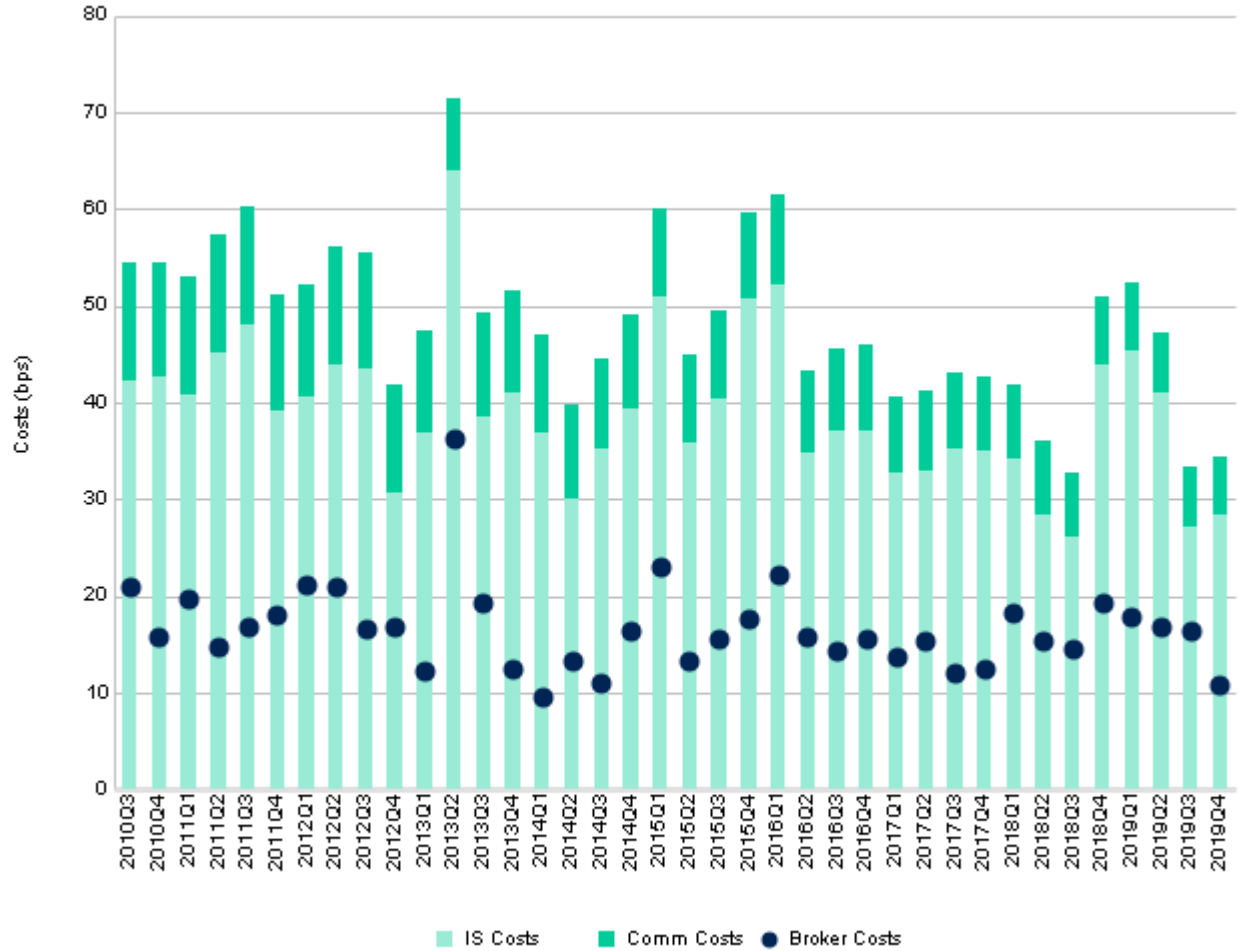
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	35,531
(2 , 4)	48,056
(4 , 6)	17,205
(6 , 8)	15,825
(8 , 10)	3,936
(10 , 12)	3,822
(12 , 14)	979
(14 , 16)	2,571
(16 , 18)	49
(18 , 20)	795
(20 , 22)	74
(38 , 40)	12
> 40	32
Total	128,887



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	4.2	156
Small Cap	3.9	1,969
Mid Cap	4.2	28,439
Large Cap	4.4	98,324
Total	4.4	128,887

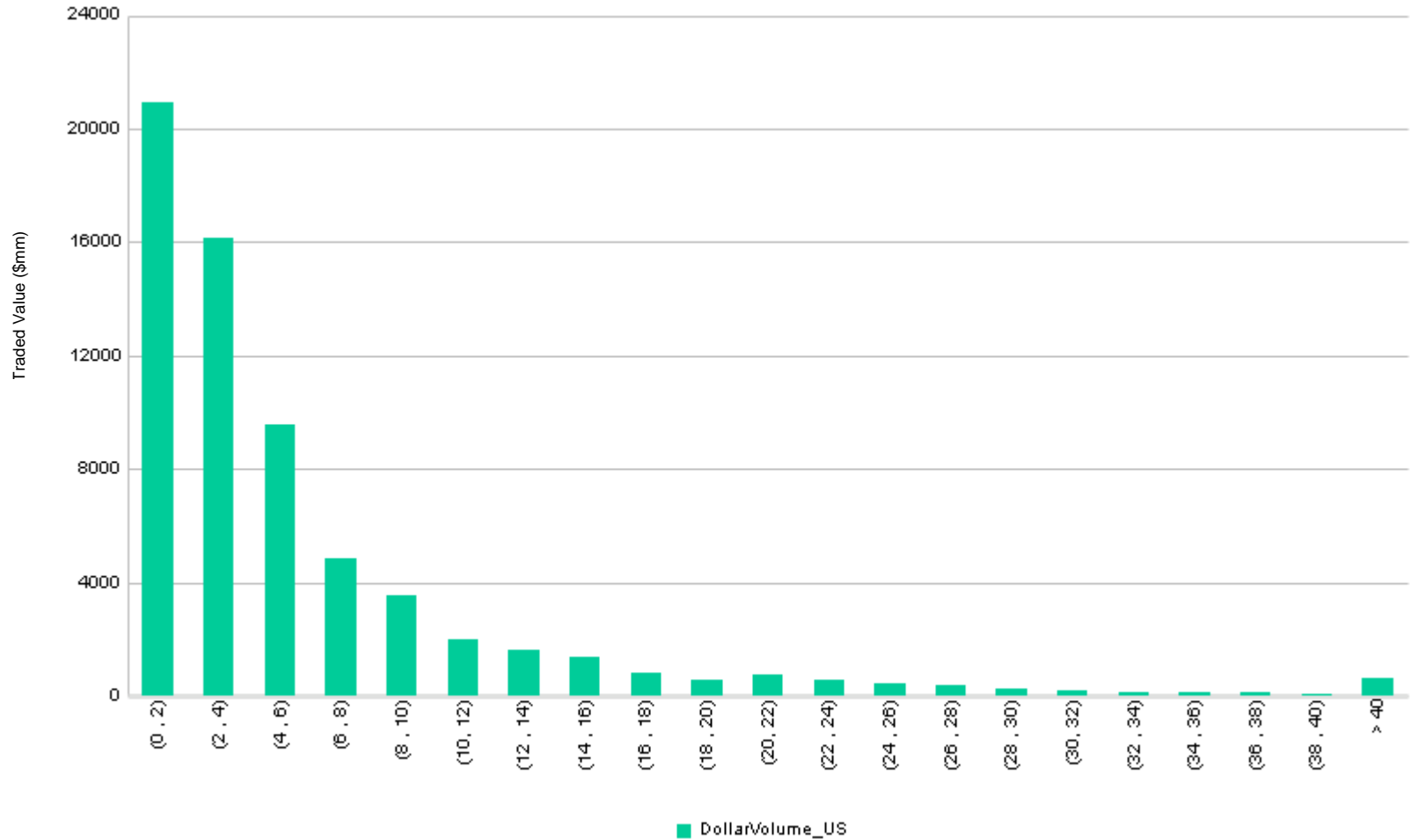
Canada (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2010Q3	42.3	12.2	54.5	21.0
2010Q4	42.6	11.9	54.5	15.8
2011Q1	40.9	12.1	53.0	19.8
2011Q2	45.1	12.3	57.4	14.7
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



Canada Commission (BPS)

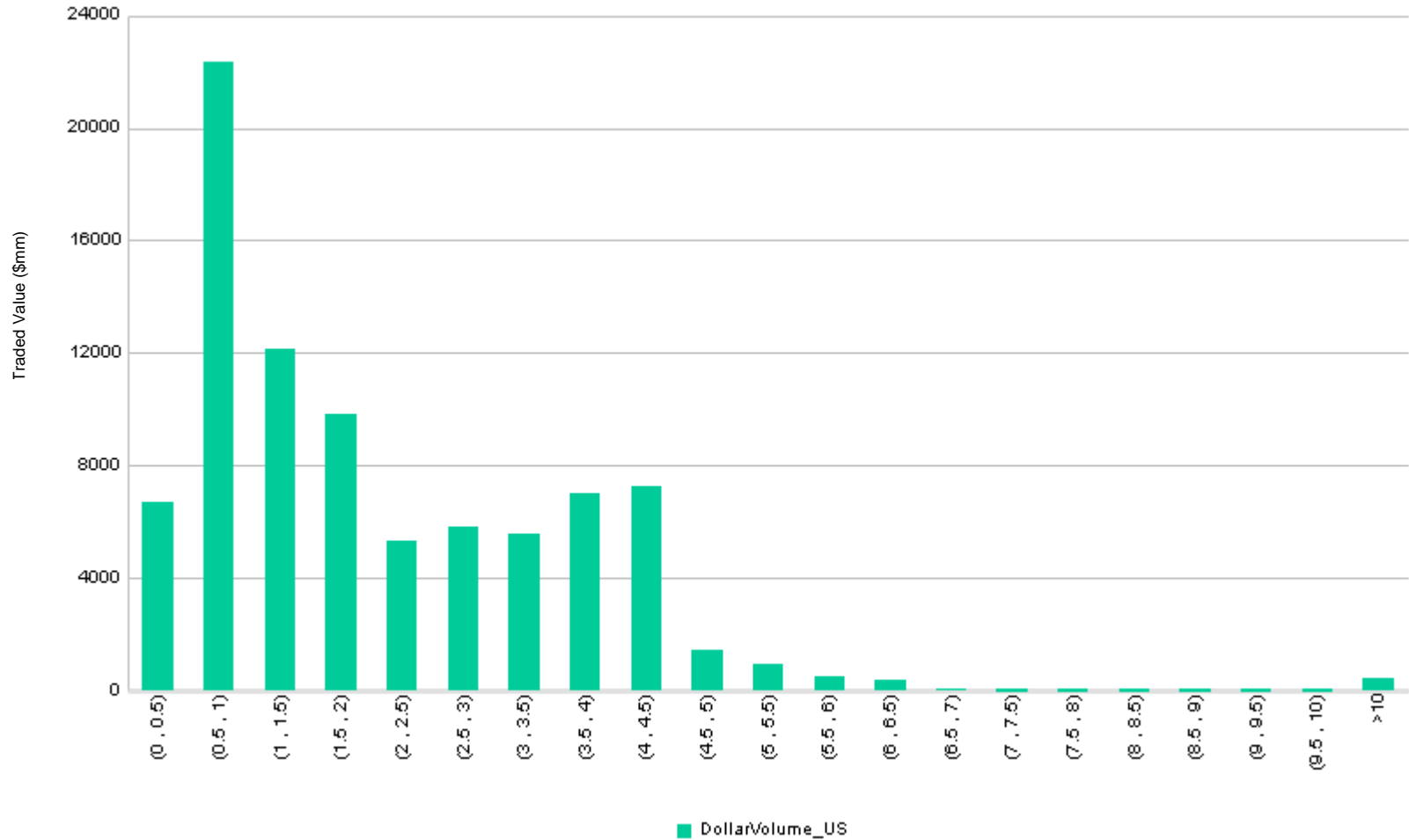
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	20,953
(2 , 4)	16,163
(4 , 6)	9,565
(6 , 8)	4,837
(8 , 10)	3,568
(10 , 12)	1,986
(12 , 14)	1,618
(14 , 16)	1,391
(16 , 18)	847
(18 , 20)	565
(20 , 22)	758
(22 , 24)	585
(24 , 26)	418
(26 , 28)	372
(28 , 30)	240
(30 , 32)	176
(32 , 34)	105
(34 , 36)	135
(36 , 38)	139
(38 , 40)	92
> 40	649
Total	65,163



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	11.1	1,024
Small Cap	16.3	1,562
Mid Cap	9.5	17,365
Large Cap	4.1	45,211
Total	6.0	65,163

Canada Commission (CAD CPS)

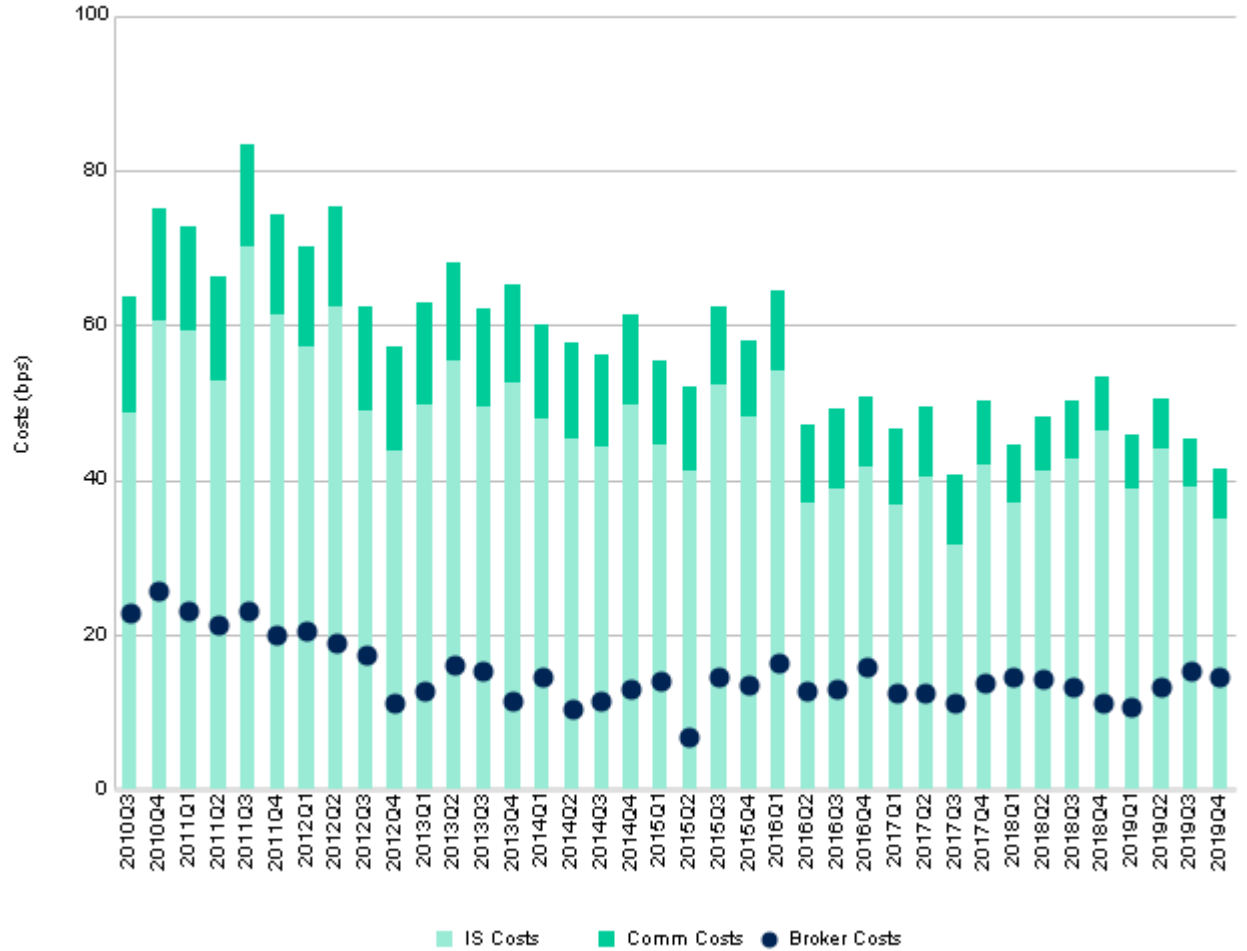
Commission (CAD CPS)	Traded Value (CAD Millions)
(0 , 0.5)	6,734
(0.5 , 1)	22,331
(1 , 1.5)	12,171
(1.5 , 2)	9,822
(2 , 2.5)	5,353
(2.5 , 3)	5,814
(3 , 3.5)	5,587
(3.5 , 4)	7,002
(4 , 4.5)	7,301
(4.5 , 5)	1,454
(5 , 5.5)	957
(5.5 , 6)	536
(6 , 6.5)	376
(6.5 , 7)	48
(7 , 7.5)	32
(7.5 , 8)	2
(8 , 8.5)	19
(8.5 , 9)	34
(9 , 9.5)	22
(9.5 , 10)	9
>10	439
Total	86,043



Market Cap	Avg Commission (CAD CPS)	Traded Value (CAD Millions)
Micro Cap	0.8	1,351
Small Cap	1.1	2,063
Mid Cap	1.5	22,932
Large Cap	1.9	59,697
Total	1.6	86,043

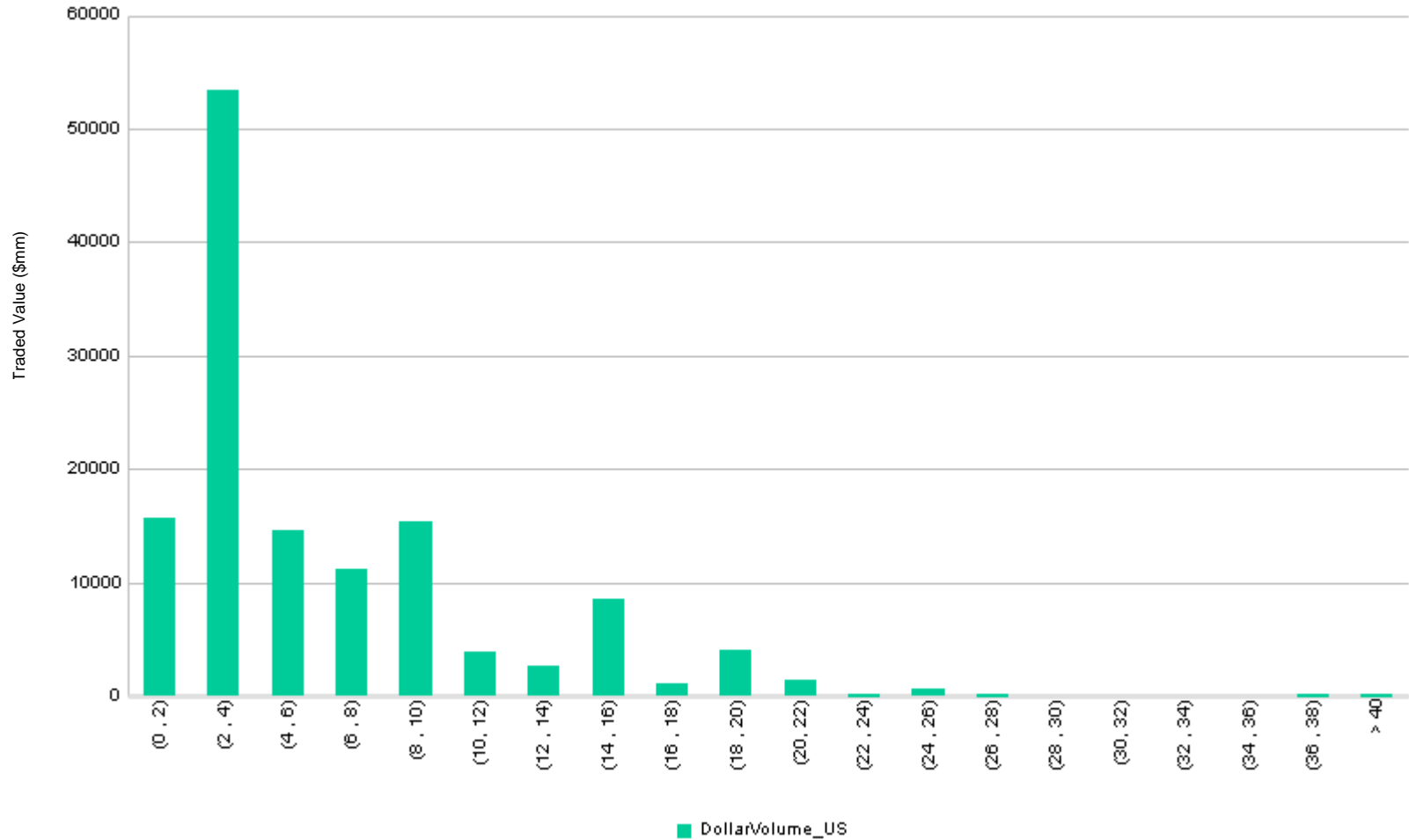
Asia Pacific ex - Japan(BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2010Q3	48.8	15.0	63.9	22.8
2010Q4	60.5	14.5	75.0	25.6
2011Q1	59.3	13.5	72.9	23.2
2011Q2	52.9	13.5	66.4	21.4
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



Asia Pacific ex - Japan Commission (BPS)

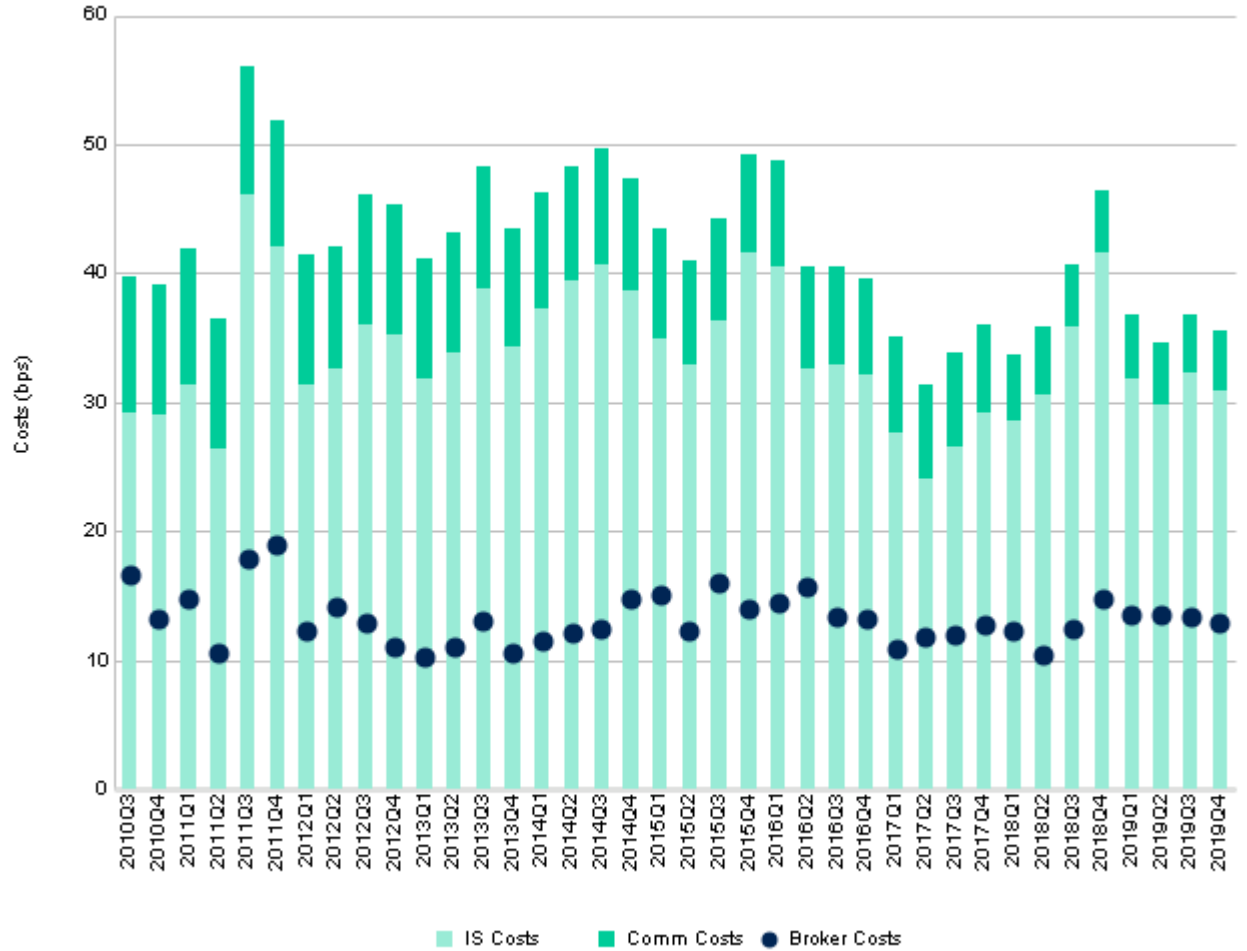
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	15,658
(2 , 4)	53,359
(4 , 6)	14,642
(6 , 8)	11,131
(8 , 10)	15,339
(10 , 12)	3,839
(12 , 14)	2,596
(14 , 16)	8,616
(16 , 18)	1,147
(18 , 20)	4,135
(20 , 22)	1,348
(22 , 24)	61
(24 , 26)	636
(26 , 28)	4
(28 , 30)	2
(30 , 32)	<1
(32 , 34)	<1
(34 , 36)	<1
(36 , 38)	8
> 40	100
Total	132,621



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	10.2	127
Small Cap	7.1	1,043
Mid Cap	6.8	26,830
Large Cap	6.1	104,621
Total	6.3	132,621

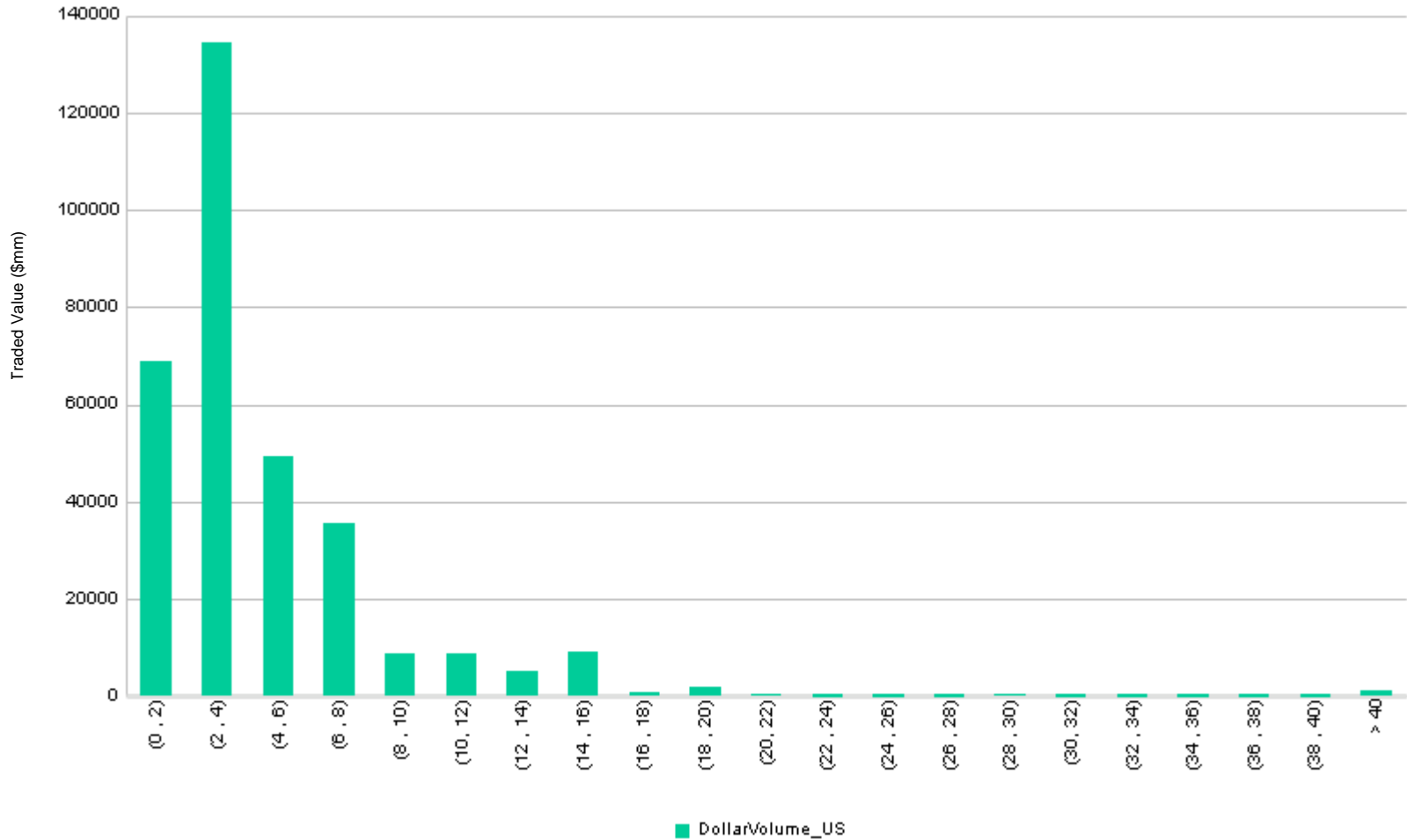
Europe ex - UK (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker_BPS
2010Q3	29.2	10.6	39.8	16.6
2010Q4	29.1	10.1	39.2	13.3
2011Q1	31.4	10.5	42.0	14.8
2011Q2	26.4	10.1	36.5	10.6
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



Europe ex - UK Commission (BPS)

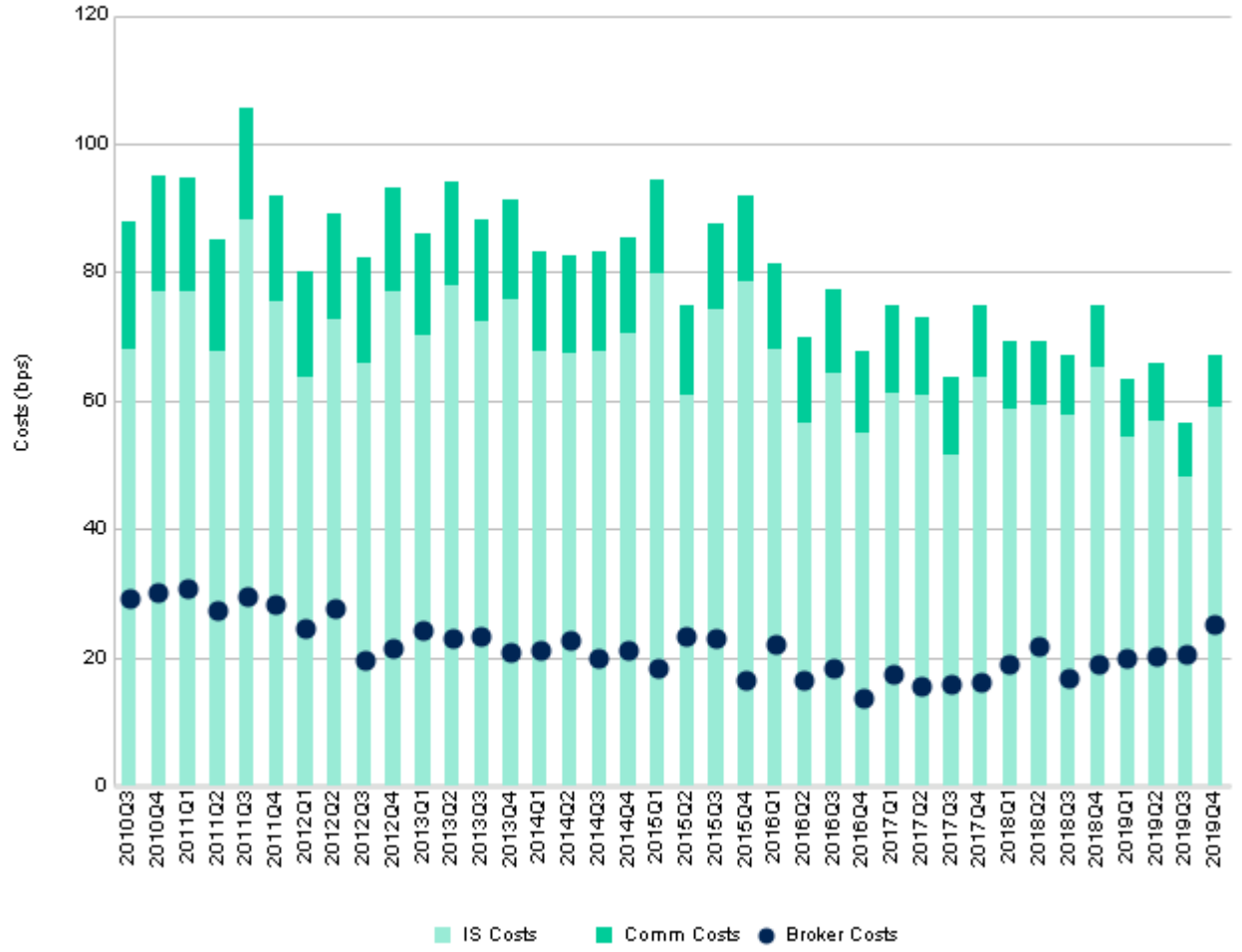
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	68,806
(2 , 4)	134,299
(4 , 6)	49,364
(6 , 8)	35,680
(8 , 10)	8,713
(10 , 12)	8,671
(12 , 14)	5,103
(14 , 16)	8,989
(16 , 18)	733
(18 , 20)	2,055
(20 , 22)	501
(22 , 24)	201
(24 , 26)	176
(26 , 28)	99
(28 , 30)	313
(30 , 32)	101
(32 , 34)	60
(34 , 36)	35
(36 , 38)	98
(38 , 40)	35
> 40	998
Total	325,030



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	6.0	103
Small Cap	5.4	1,327
Mid Cap	5.5	37,904
Large Cap	4.5	285,696
Total	4.7	325,030

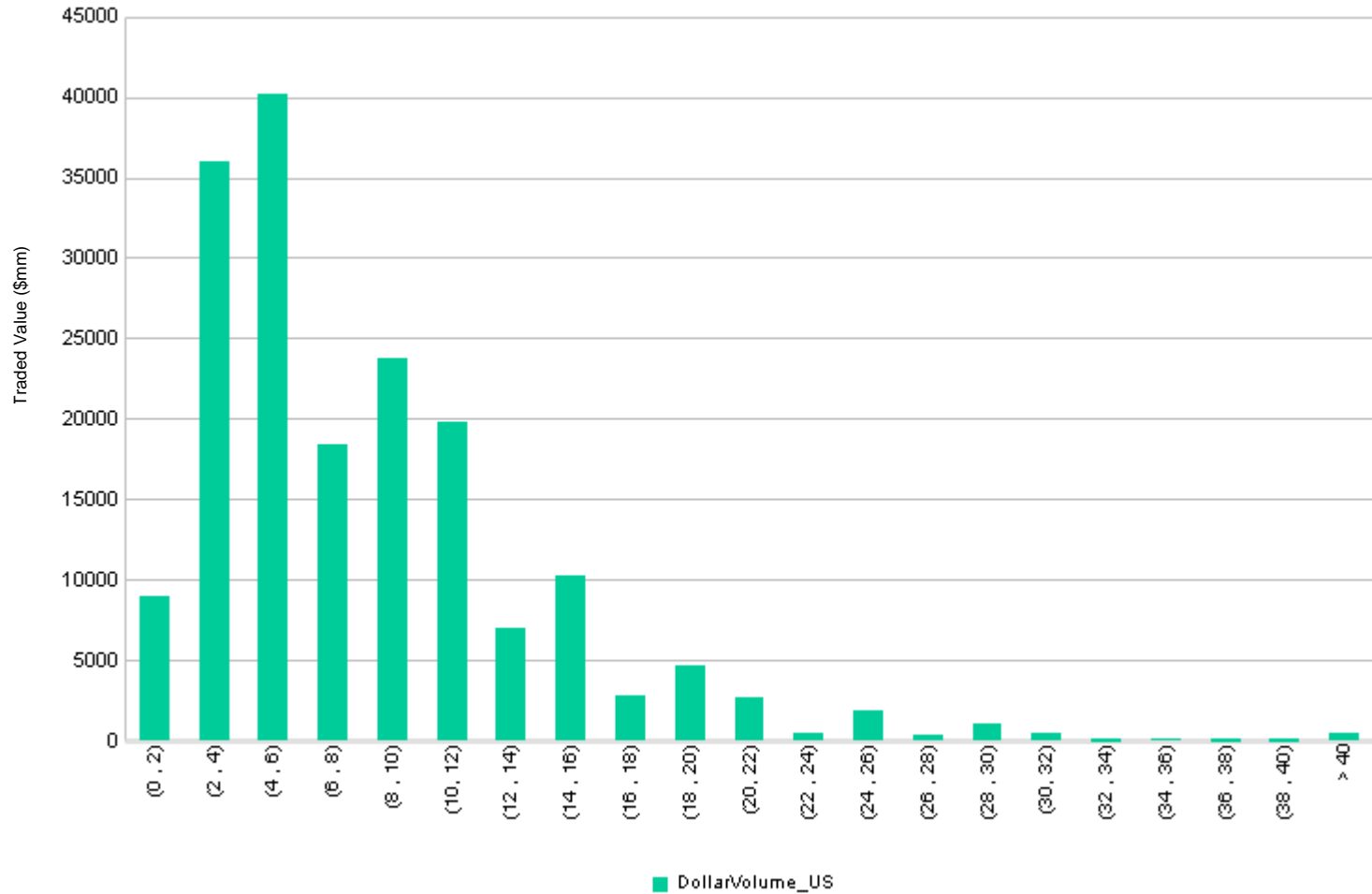
Emerging Markets (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2010Q3	67.9	19.9	87.8	29.4
2010Q4	77.2	17.7	94.9	30.3
2011Q1	77.0	17.7	94.7	30.9
2011Q2	67.7	17.3	85.0	27.5
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



Emerging Markets Commission (BPS)

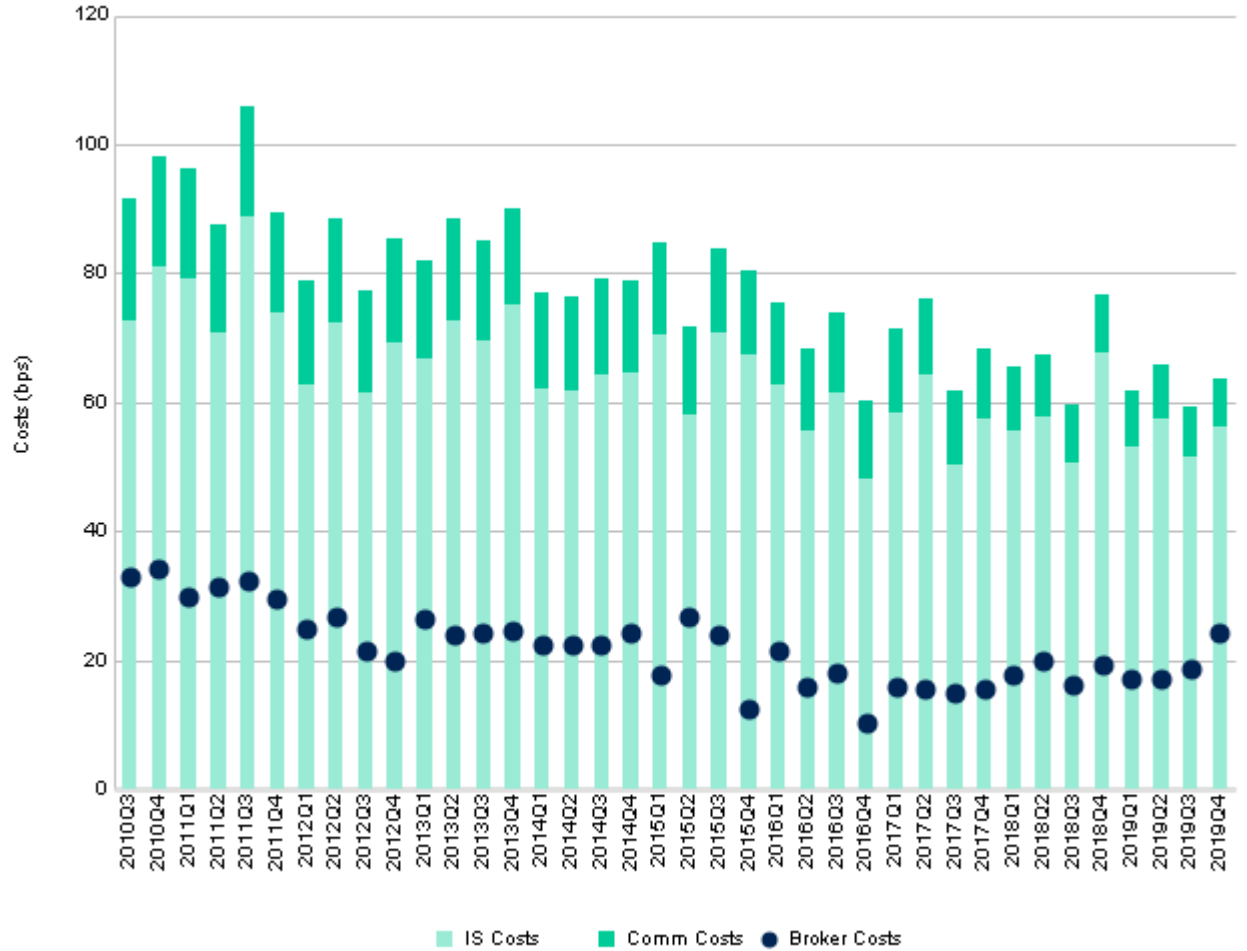
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	9,035
(2 , 4)	35,949
(4 , 6)	40,174
(6 , 8)	18,368
(8 , 10)	23,743
(10 , 12)	19,808
(12 , 14)	7,013
(14 , 16)	10,215
(16 , 18)	2,871
(18 , 20)	4,707
(20 , 22)	2,657
(22 , 24)	520
(24 , 26)	1,827
(26 , 28)	404
(28 , 30)	1,052
(30 , 32)	511
(32 , 34)	11
(34 , 36)	91
(36 , 38)	13
(38 , 40)	46
> 40	471
Total	179,485



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	9.6	297
Small Cap	8.1	2,727
Mid Cap	8.2	47,031
Large Cap	8.3	129,428
Total	8.3	179,485

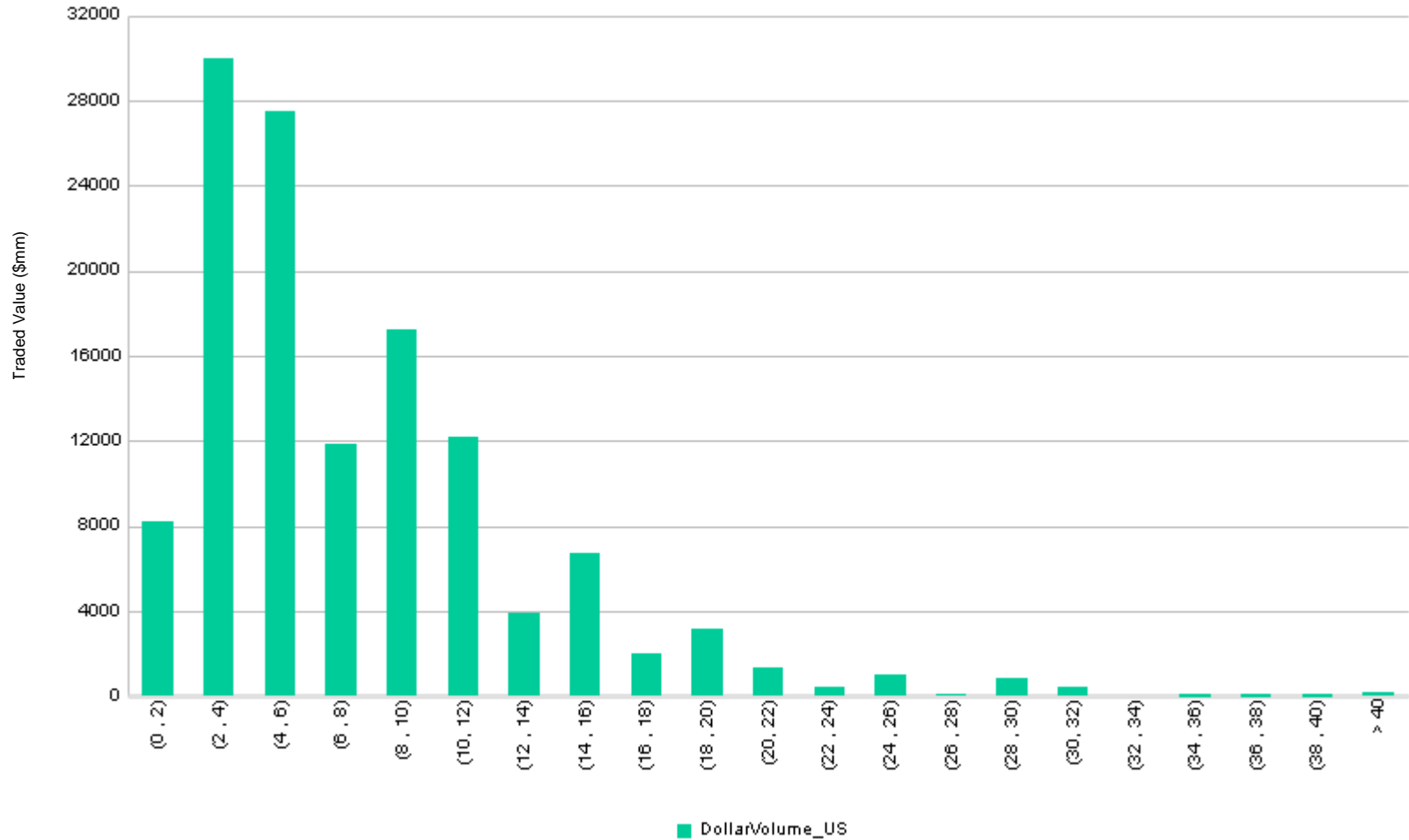
Emerging Asia (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2010Q3	72.6	18.9	91.5	33.0
2010Q4	81.0	17.3	98.3	34.3
2011Q1	79.1	17.3	96.4	29.8
2011Q2	70.7	16.9	87.6	31.4
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



Emerging Asia Commission (BPS)

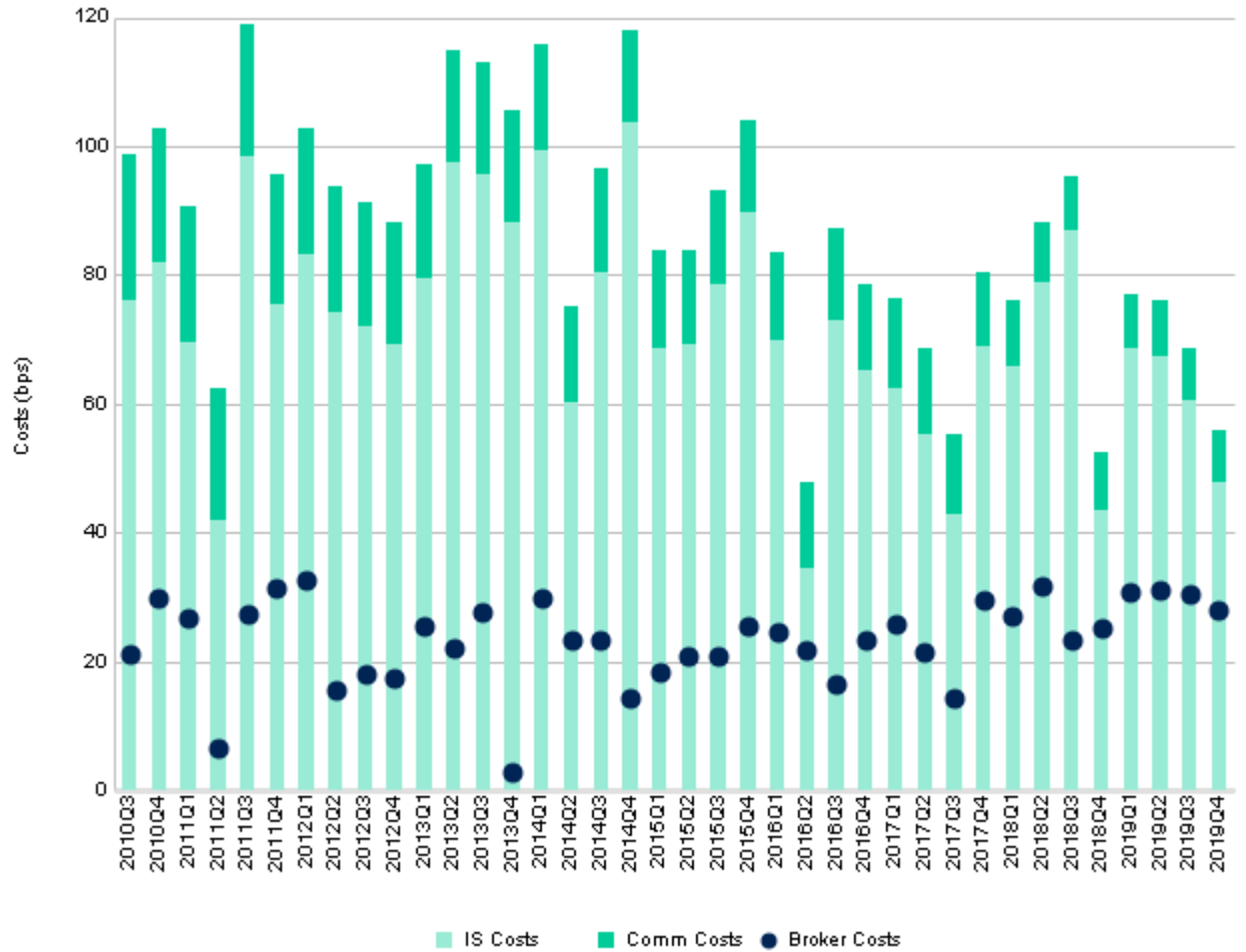
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	8,196
(2 , 4)	29,971
(4 , 6)	27,466
(6 , 8)	11,818
(8 , 10)	17,264
(10 , 12)	12,152
(12 , 14)	3,874
(14 , 16)	6,740
(16 , 18)	1,989
(18 , 20)	3,167
(20 , 22)	1,358
(22 , 24)	394
(24 , 26)	973
(26 , 28)	100
(28 , 30)	865
(30 , 32)	449
(32 , 34)	<1
(34 , 36)	18
(36 , 38)	12
(38 , 40)	22
> 40	217
Total	127,047



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	9.0	242
Small Cap	8.0	2,187
Mid Cap	7.6	31,092
Large Cap	7.8	93,526
Total	7.8	127,047

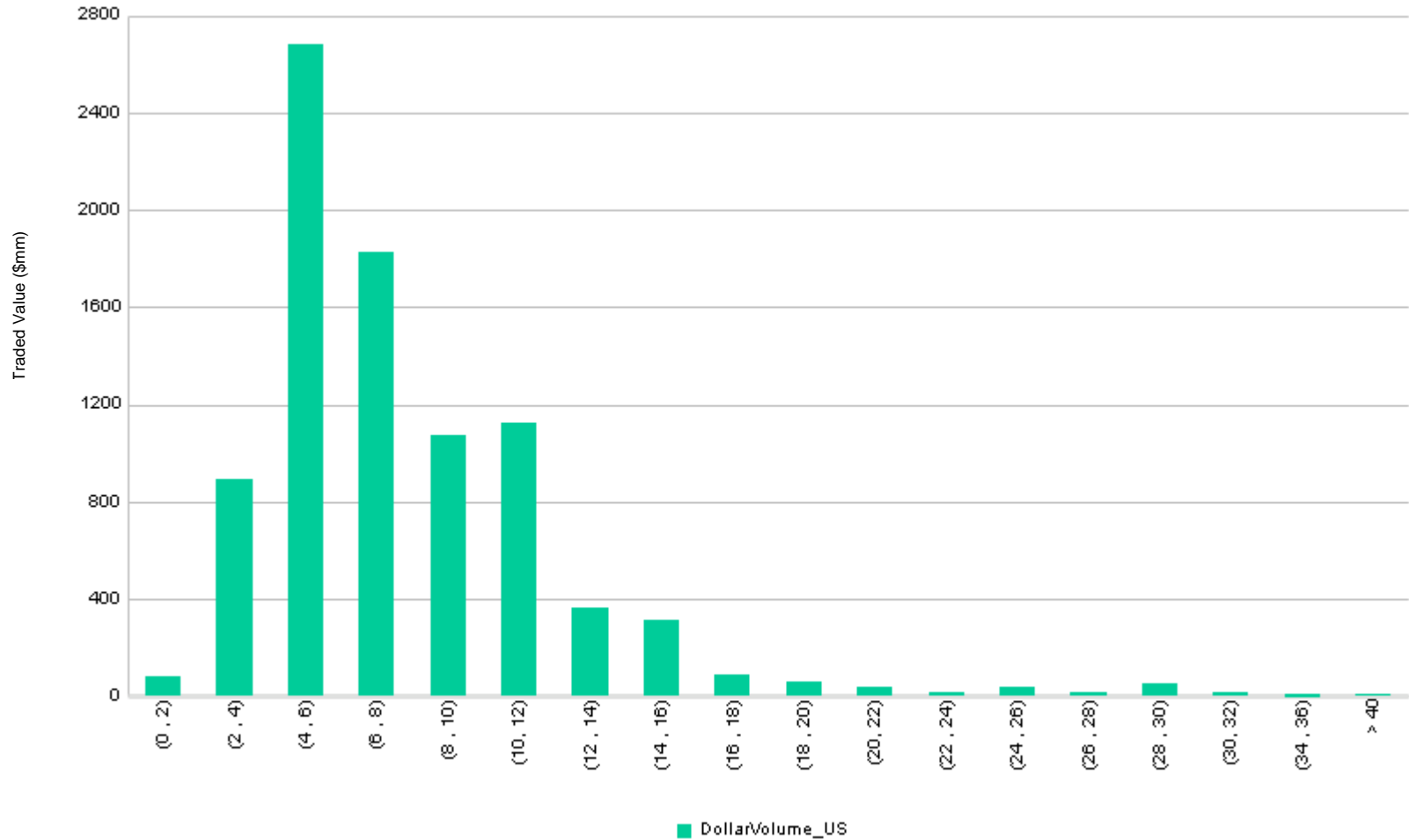
Emerging Europe (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2010Q3	76.0	22.8	98.8	21.3
2010Q4	82.0	20.8	102.8	29.8
2011Q1	69.7	21.1	90.8	26.7
2011Q2	42.1	20.5	62.6	6.7
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



Emerging Europe Commission (BPS)

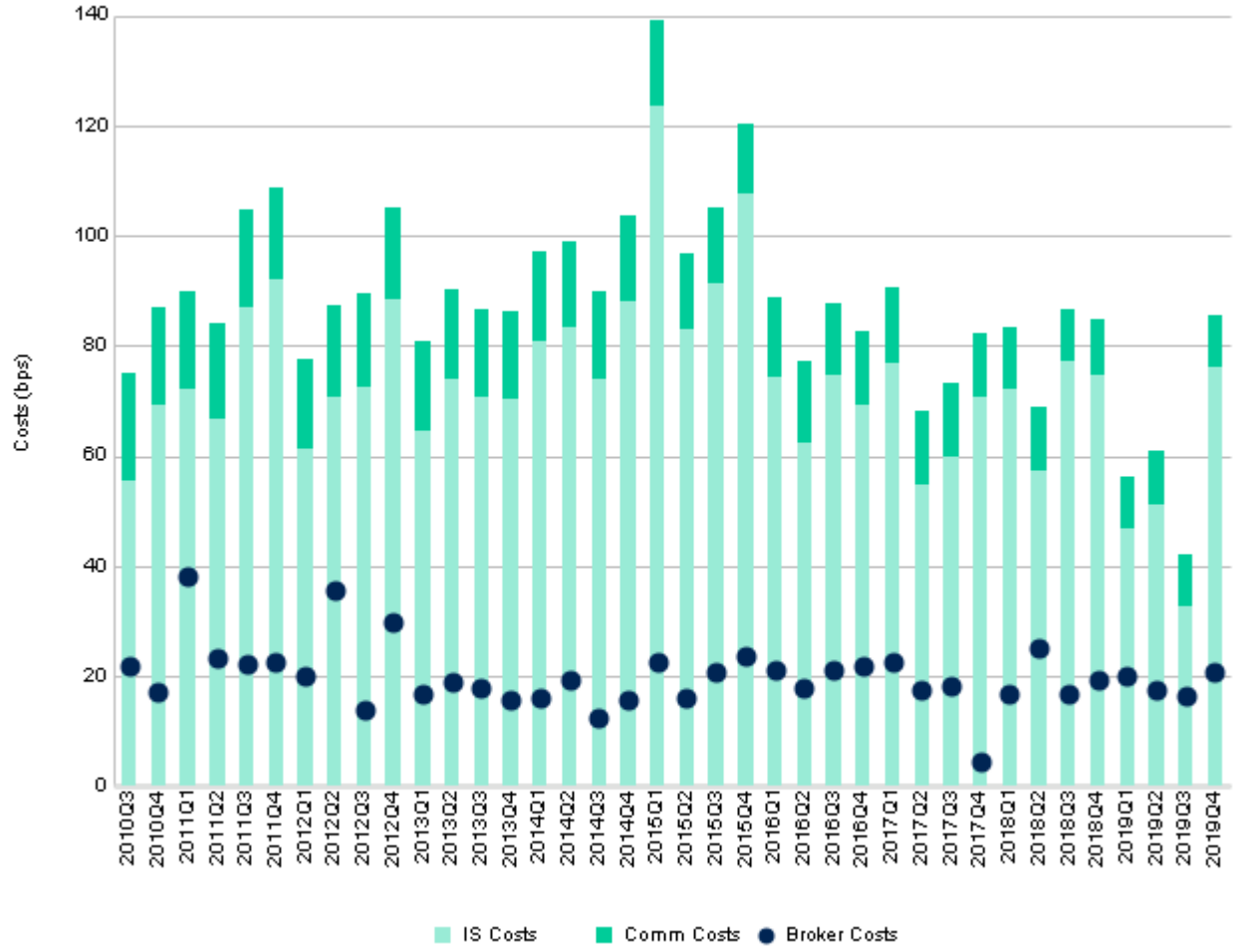
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	83
(2 , 4)	892
(4 , 6)	2,678
(6 , 8)	1,828
(8 , 10)	1,075
(10 , 12)	1,127
(12 , 14)	366
(14 , 16)	311
(16 , 18)	88
(18 , 20)	62
(20 , 22)	37
(22 , 24)	14
(24 , 26)	39
(26 , 28)	15
(28 , 30)	50
(30 , 32)	18
(34 , 36)	4
> 40	7
Total	8,695



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	7.2	26
Small Cap	6.4	200
Mid Cap	7.8	3,139
Large Cap	8.1	5,329
Total	7.9	8,695

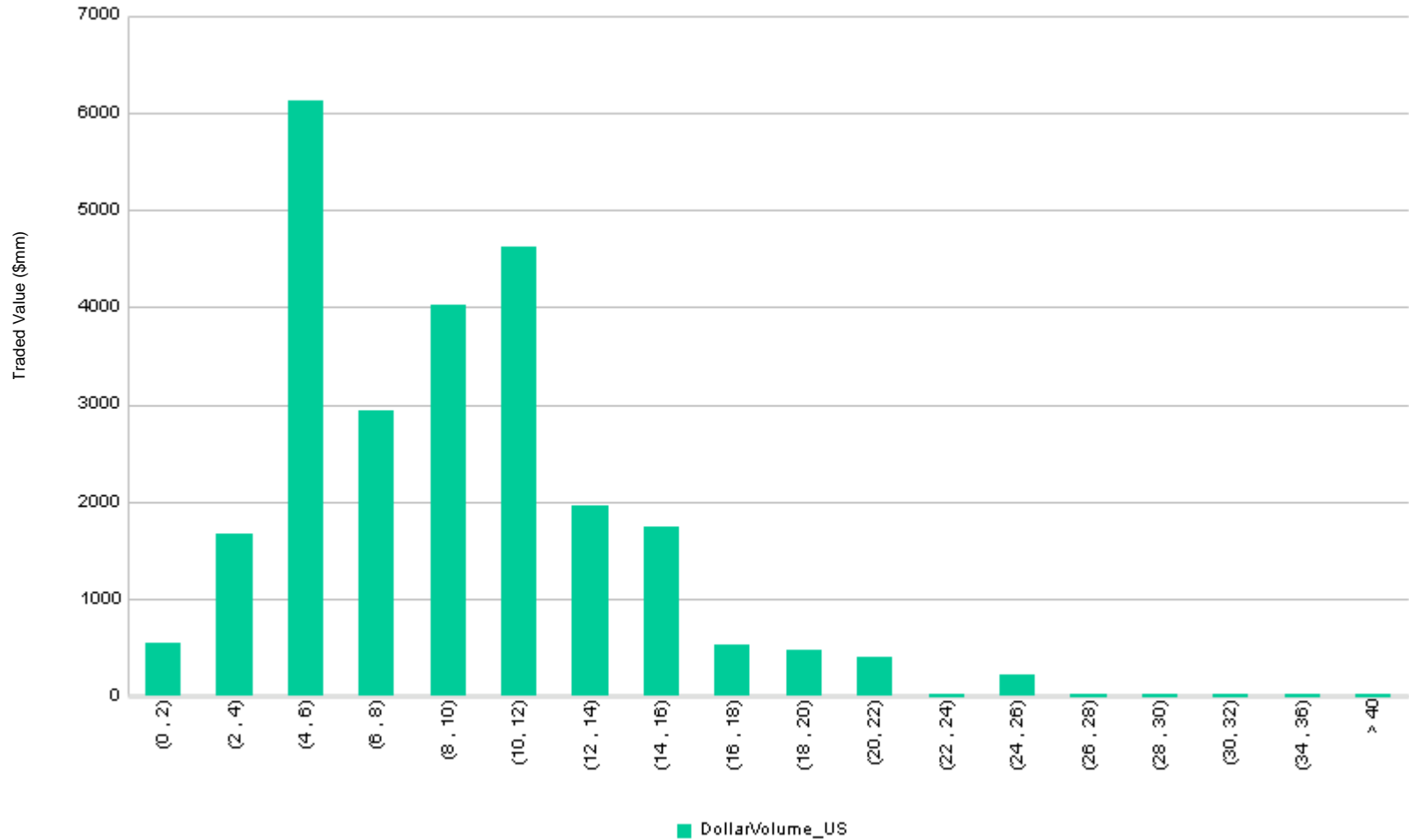
Latin America (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2010Q3	55.5	19.6	75.1	21.7
2010Q4	69.2	17.7	86.9	17.1
2011Q1	72.0	18.0	90.0	38.2
2011Q2	66.8	17.4	84.2	23.1
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



Latin America Commission (BPS)

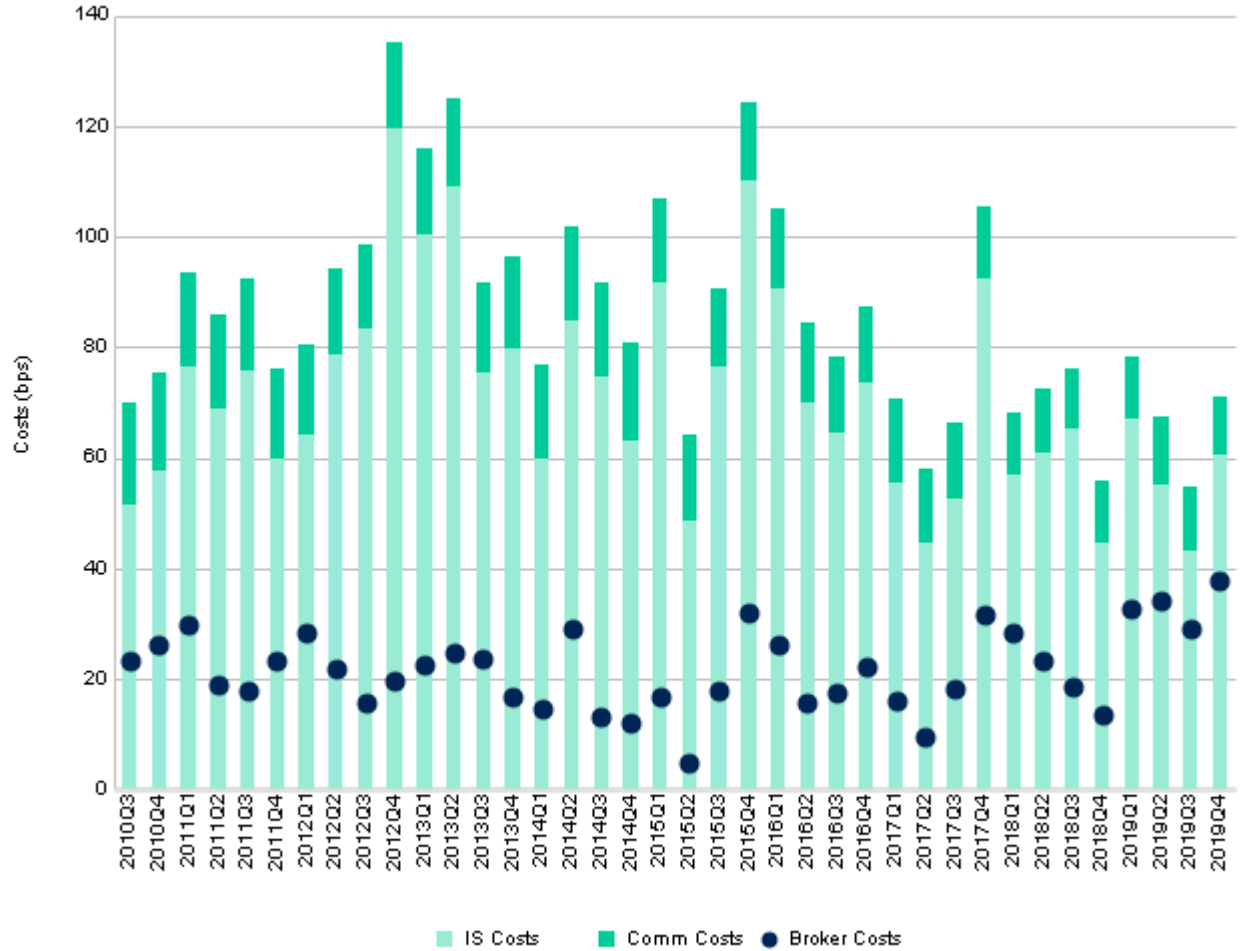
Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	543
(2 , 4)	1,670
(4 , 6)	6,121
(6 , 8)	2,939
(8 , 10)	4,016
(10 , 12)	4,617
(12 , 14)	1,958
(14 , 16)	1,749
(16 , 18)	522
(18 , 20)	482
(20 , 22)	397
(22 , 24)	12
(24 , 26)	225
(26 , 28)	4
(28 , 30)	11
(30 , 32)	6
(34 , 36)	2
> 40	2
Total	25,275



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	8.3	7
Small Cap	9.2	137
Mid Cap	9.3	7,655
Large Cap	9.2	17,476
Total	9.2	25,275

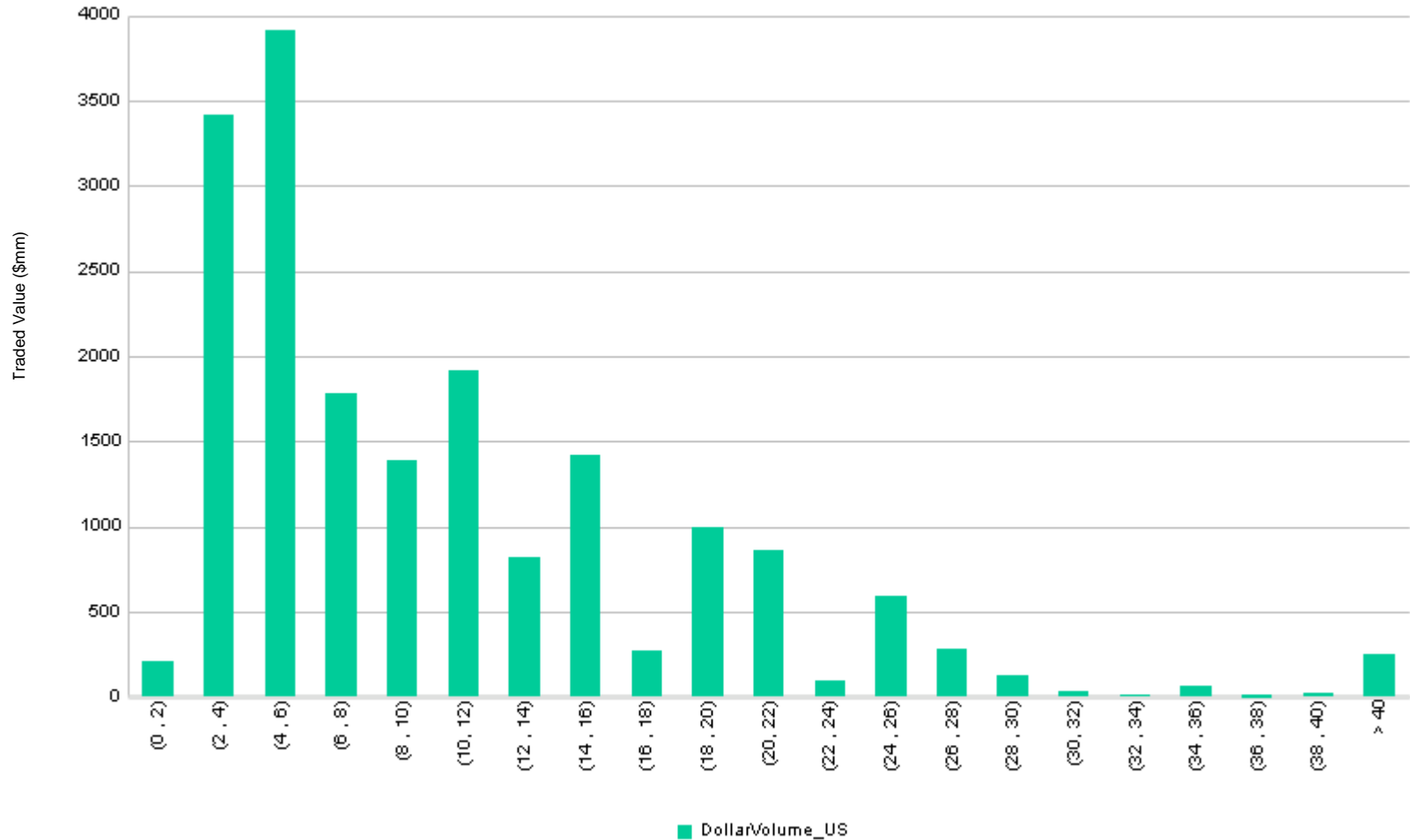
Africa and Middle East (BPS)

Quarter	IS Costs	Comm Costs	Total Costs	Broker Costs
2010Q3	51.5	18.3	69.8	23.4
2010Q4	57.8	17.5	75.3	26.1
2011Q1	76.6	17.0	93.6	29.8
2011Q2	68.7	17.1	85.8	19.0
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



Africa and Middle East Commission (BPS)

Commission (BPS)	Traded Value (USD Millions)
(0 , 2)	213
(2 , 4)	3,416
(4 , 6)	3,909
(6 , 8)	1,784
(8 , 10)	1,387
(10 , 12)	1,913
(12 , 14)	814
(14 , 16)	1,415
(16 , 18)	272
(18 , 20)	996
(20 , 22)	866
(22 , 24)	99
(24 , 26)	591
(26 , 28)	284
(28 , 30)	125
(30 , 32)	37
(32 , 34)	11
(34 , 36)	67
(36 , 38)	<1
(38 , 40)	24
> 40	245
Total	18,467



Market Cap	Avg Commission (BPS)	Traded Value (USD Millions)
Micro Cap	19.5	22
Small Cap	10.5	203
Mid Cap	10.5	5,145
Large Cap	10.8	13,098
Total	10.7	18,467

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 ITG's Peer Universe

Trade Value (CAD Millions) Principal value of all trades executed, shown in Millions (CAD) found in ITG'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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