

# Global Cost Review

Q1 2019

Results as of 05/06/2019



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## Average Regional Commission by Market Capitalization

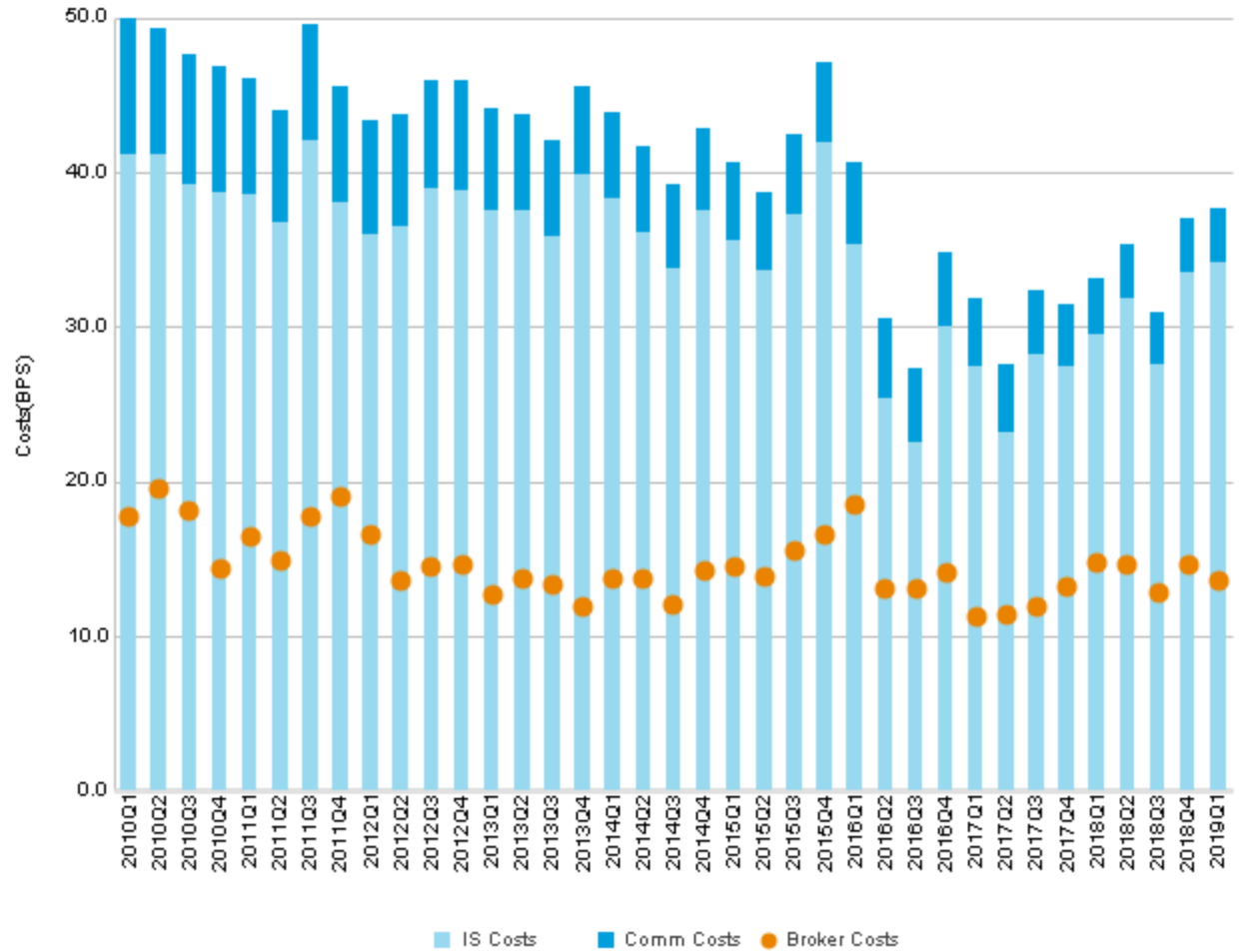
| Region                |              | Avg. Commission (BPS) |            |            |            |            |
|-----------------------|--------------|-----------------------|------------|------------|------------|------------|
|                       |              | 2019Q1                | 2018Q4     | 2018Q3     | 2018Q2     | 2Q18-1Q19  |
| United States         | Micro Cap    | 16.0                  | 14.3       | 10.5       | 12.7       | 13.0       |
|                       | Small Cap    | 11.0                  | 10.2       | 10.2       | 9.6        | 10.2       |
|                       | Mid Cap      | 5.6                   | 5.8        | 5.3        | 5.5        | 5.6        |
|                       | Large Cap    | 2.9                   | 3.0        | 3.0        | 3.1        | 3.0        |
|                       | <b>Total</b> | <b>3.4</b>            | <b>3.5</b> | <b>3.4</b> | <b>3.5</b> | <b>3.5</b> |
| United Kingdom        | Micro Cap    | 5.5                   | 7.3        | 6.4        | 7.1        | 6.5        |
|                       | Small Cap    | 7.9                   | 7.3        | 7.8        | 7.9        | 7.7        |
|                       | Mid Cap      | 5.8                   | 5.4        | 5.6        | 6.0        | 5.7        |
|                       | Large Cap    | 5.0                   | 5.0        | 5.2        | 5.4        | 5.1        |
|                       | <b>Total</b> | <b>5.2</b>            | <b>5.1</b> | <b>5.3</b> | <b>5.5</b> | <b>5.3</b> |
| Japan                 | Micro Cap    | 3.8                   | 4.9        | 4.3        | 4.3        | 4.3        |
|                       | Small Cap    | 4.2                   | 4.5        | 4.2        | 4.4        | 4.3        |
|                       | Mid Cap      | 4.6                   | 4.7        | 4.8        | 4.7        | 4.7        |
|                       | Large Cap    | 4.7                   | 5.0        | 5.0        | 5.1        | 5.0        |
|                       | <b>Total</b> | <b>4.7</b>            | <b>4.9</b> | <b>5.0</b> | <b>5.0</b> | <b>4.9</b> |
| Canada                | Micro Cap    | 10.3                  | 14.8       | 13.4       | 12.9       | 12.4       |
|                       | Small Cap    | 17.0                  | 15.5       | 16.8       | 15.5       | 16.1       |
|                       | Mid Cap      | 10.5                  | 10.9       | 10.5       | 11.0       | 10.7       |
|                       | Large Cap    | 5.2                   | 5.1        | 4.7        | 5.3        | 5.1        |
|                       | <b>Total</b> | <b>7.1</b>            | <b>7.0</b> | <b>6.7</b> | <b>7.6</b> | <b>7.1</b> |
| Europe ex UK          | Micro Cap    | 4.9                   | 5.1        | 5.0        | 5.1        | 5.0        |
|                       | Small Cap    | 6.6                   | 6.9        | 6.3        | 6.5        | 6.6        |
|                       | Mid Cap      | 5.6                   | 5.2        | 5.0        | 5.5        | 5.3        |
|                       | Large Cap    | 5.0                   | 4.7        | 4.8        | 5.2        | 4.9        |
|                       | <b>Total</b> | <b>5.1</b>            | <b>4.8</b> | <b>4.9</b> | <b>5.2</b> | <b>5.0</b> |
| Asia Pacific ex Japan | Micro Cap    | 9.2                   | 10.1       | 9.1        | 11.1       | 9.9        |
|                       | Small Cap    | 7.7                   | 7.7        | 8.5        | 9.2        | 8.3        |
|                       | Mid Cap      | 7.4                   | 7.7        | 7.8        | 7.5        | 7.6        |
|                       | Large Cap    | 6.7                   | 7.0        | 7.3        | 6.9        | 7.0        |
|                       | <b>Total</b> | <b>6.9</b>            | <b>7.2</b> | <b>7.4</b> | <b>7.0</b> | <b>7.1</b> |
| Emerging Markets      | Micro Cap    | 11.6                  | 10.7       | 14.9       | 10.7       | 12.5       |
|                       | Small Cap    | 8.5                   | 8.5        | 8.3        | 9.4        | 8.7        |
|                       | Mid Cap      | 8.9                   | 9.3        | 9.2        | 10.0       | 9.4        |
|                       | Large Cap    | 9.1                   | 9.5        | 9.3        | 9.9        | 9.5        |
|                       | <b>Total</b> | <b>9.0</b>            | <b>9.4</b> | <b>9.3</b> | <b>9.9</b> | <b>9.4</b> |

| Region                 |              | Avg. Commission (BPS) |             |             |             |             |
|------------------------|--------------|-----------------------|-------------|-------------|-------------|-------------|
|                        |              | 2019Q1                | 2018Q4      | 2018Q3      | 2018Q2      | 2Q18-1Q19   |
| Emerging Asia          | Micro Cap    | 11.5                  | 10.5        | 15.1        | 10.1        | 12.4        |
|                        | Small Cap    | 8.2                   | 7.8         | 7.8         | 8.8         | 8.2         |
|                        | Mid Cap      | 8.3                   | 8.6         | 8.8         | 9.4         | 8.8         |
|                        | Large Cap    | 8.8                   | 9.2         | 9.1         | 9.5         | 9.2         |
|                        | <b>Total</b> | <b>8.7</b>            | <b>9.1</b>  | <b>9.0</b>  | <b>9.5</b>  | <b>9.1</b>  |
| Emerging Europe        | Micro Cap    | 10.2                  | 9.5         | 10.4        | 11.6        | 10.5        |
|                        | Small Cap    | 7.4                   | 8.2         | 9.9         | 9.8         | 8.7         |
|                        | Mid Cap      | 8.4                   | 9.3         | 8.9         | 9.1         | 8.9         |
|                        | Large Cap    | 8.5                   | 8.8         | 8.1         | 9.3         | 8.7         |
|                        | <b>Total</b> | <b>8.4</b>            | <b>9.0</b>  | <b>8.5</b>  | <b>9.3</b>  | <b>8.8</b>  |
| Latin America          | Micro Cap    | 9.6                   | 8.0         | 8.8         | 8.5         | 8.6         |
|                        | Small Cap    | 11.3                  | 9.6         | 9.8         | 10.8        | 10.3        |
|                        | Mid Cap      | 9.8                   | 10.5        | 10.0        | 11.3        | 10.4        |
|                        | Large Cap    | 9.3                   | 9.9         | 9.4         | 11.4        | 10.1        |
|                        | <b>Total</b> | <b>9.5</b>            | <b>10.1</b> | <b>9.6</b>  | <b>11.3</b> | <b>10.2</b> |
| Middle East and Africa | Micro Cap    | 16.3                  | 21.4        | 23.3        | 21.7        | 20.3        |
|                        | Small Cap    | 10.6                  | 14.6        | 12.9        | 16.9        | 13.8        |
|                        | Mid Cap      | 11.4                  | 11.0        | 11.4        | 12.4        | 11.6        |
|                        | Large Cap    | 11.0                  | 11.1        | 10.7        | 11.1        | 11.0        |
|                        | <b>Total</b> | <b>11.1</b>           | <b>11.1</b> | <b>10.9</b> | <b>11.5</b> | <b>11.2</b> |

| Region        |              | Avg. Commission (CPS) |            |            |            |            |
|---------------|--------------|-----------------------|------------|------------|------------|------------|
|               |              | 2019Q1                | 2018Q4     | 2018Q3     | 2018Q2     | 2Q18-1Q19  |
| United States | Micro Cap    | 0.9                   | 0.9        | 1.2        | 0.8        | 0.9        |
|               | Small Cap    | 1.0                   | 1.1        | 1.1        | 1.0        | 1.1        |
|               | Mid Cap      | 1.3                   | 1.4        | 1.4        | 1.4        | 1.4        |
|               | Large Cap    | 1.7                   | 1.7        | 1.8        | 1.9        | 1.8        |
|               | <b>Total</b> | <b>1.5</b>            | <b>1.6</b> | <b>1.7</b> | <b>1.7</b> | <b>1.6</b> |
| Canada        | Micro Cap    | 0.7                   | 0.6        | 0.4        | 1.0        | 0.6        |
|               | Small Cap    | 1.2                   | 0.7        | 0.8        | 1.2        | 0.9        |
|               | Mid Cap      | 1.5                   | 1.1        | 1.2        | 1.3        | 1.2        |
|               | Large Cap    | 2.0                   | 1.5        | 1.5        | 1.7        | 1.6        |
|               | <b>Total</b> | <b>1.2</b>            | <b>1.2</b> | <b>1.3</b> | <b>1.4</b> | <b>1.3</b> |

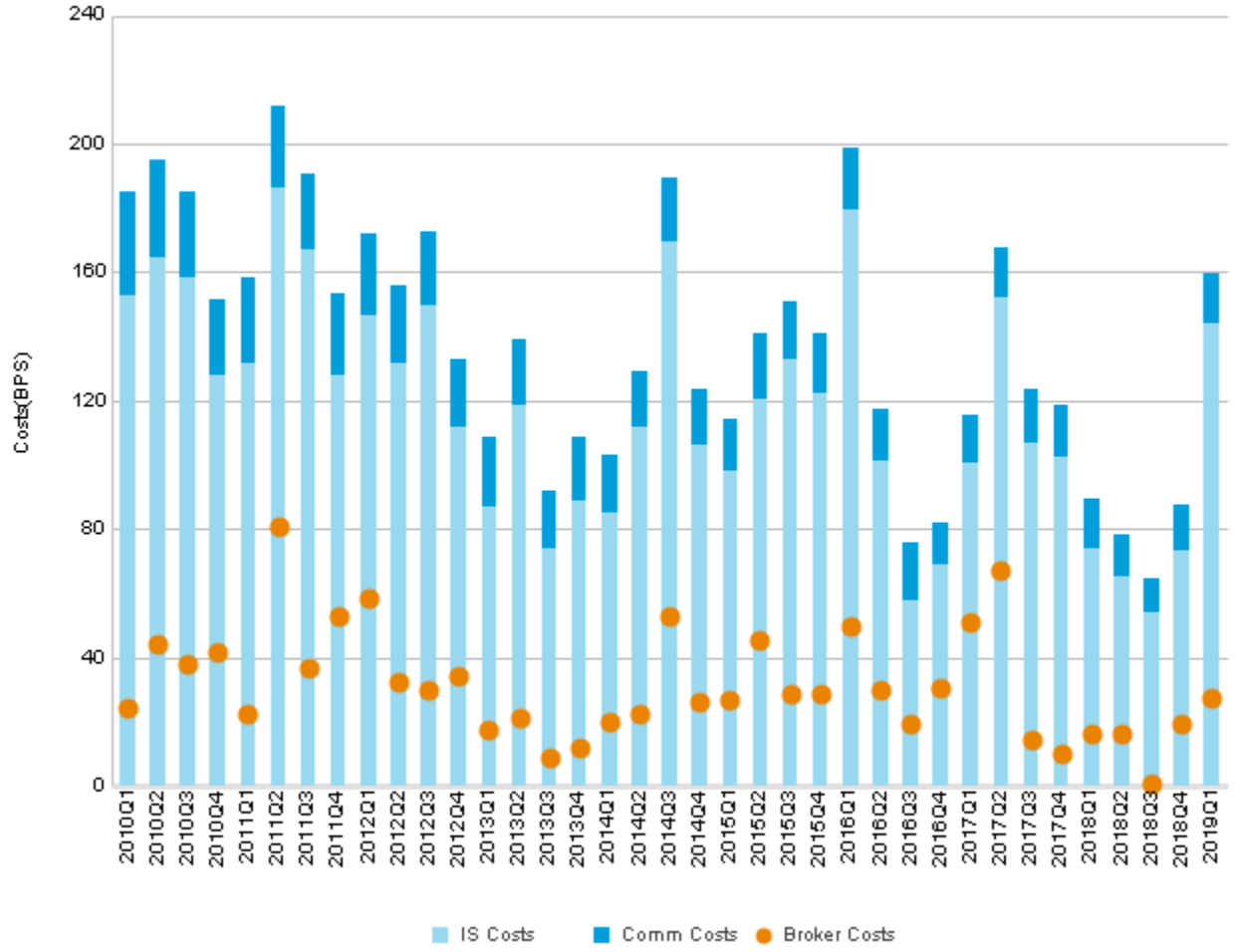
# United States(BPS)

| Quarter | IS Costs | Comm Costs | Total Costs | Broker Costs |
|---------|----------|------------|-------------|--------------|
| 2010Q1  | 41.1     | 8.8        | 49.9        | 17.7         |
| 2010Q2  | 41.1     | 8.2        | 49.3        | 19.6         |
| 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  | 34.2     | 3.4        | 37.6        | 13.6         |



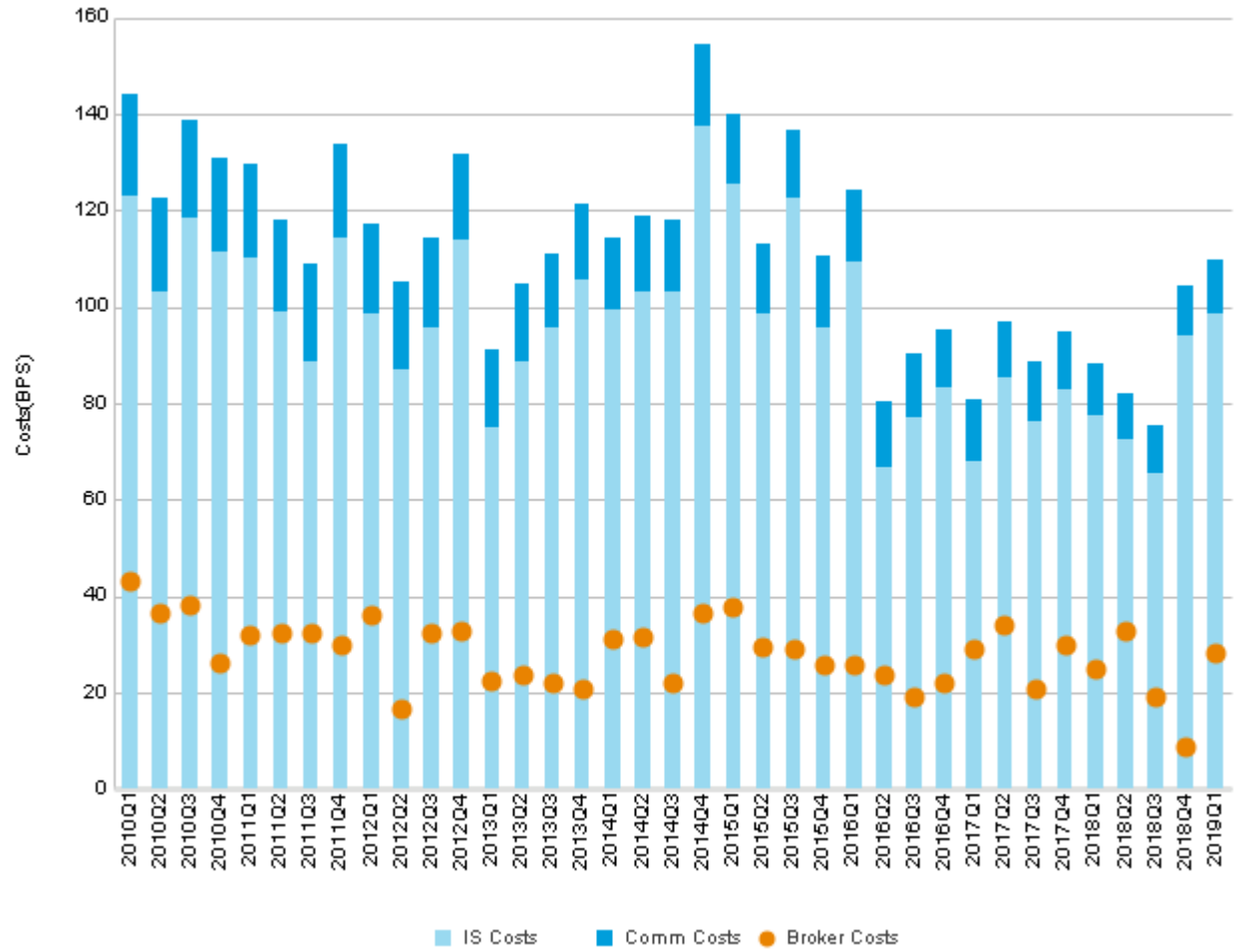
# United States - Micro Cap (BPS)

| Quarter | IS Costs | Comm Costs | Total Costs | Broker Costs |
|---------|----------|------------|-------------|--------------|
| 2010Q1  | 153.1    | 32.1       | 185.2       | 24.1         |
| 2010Q2  | 164.5    | 30.5       | 195.0       | 44.4         |
| 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  | 144.0    | 16.0       | 159.9       | 27.6         |



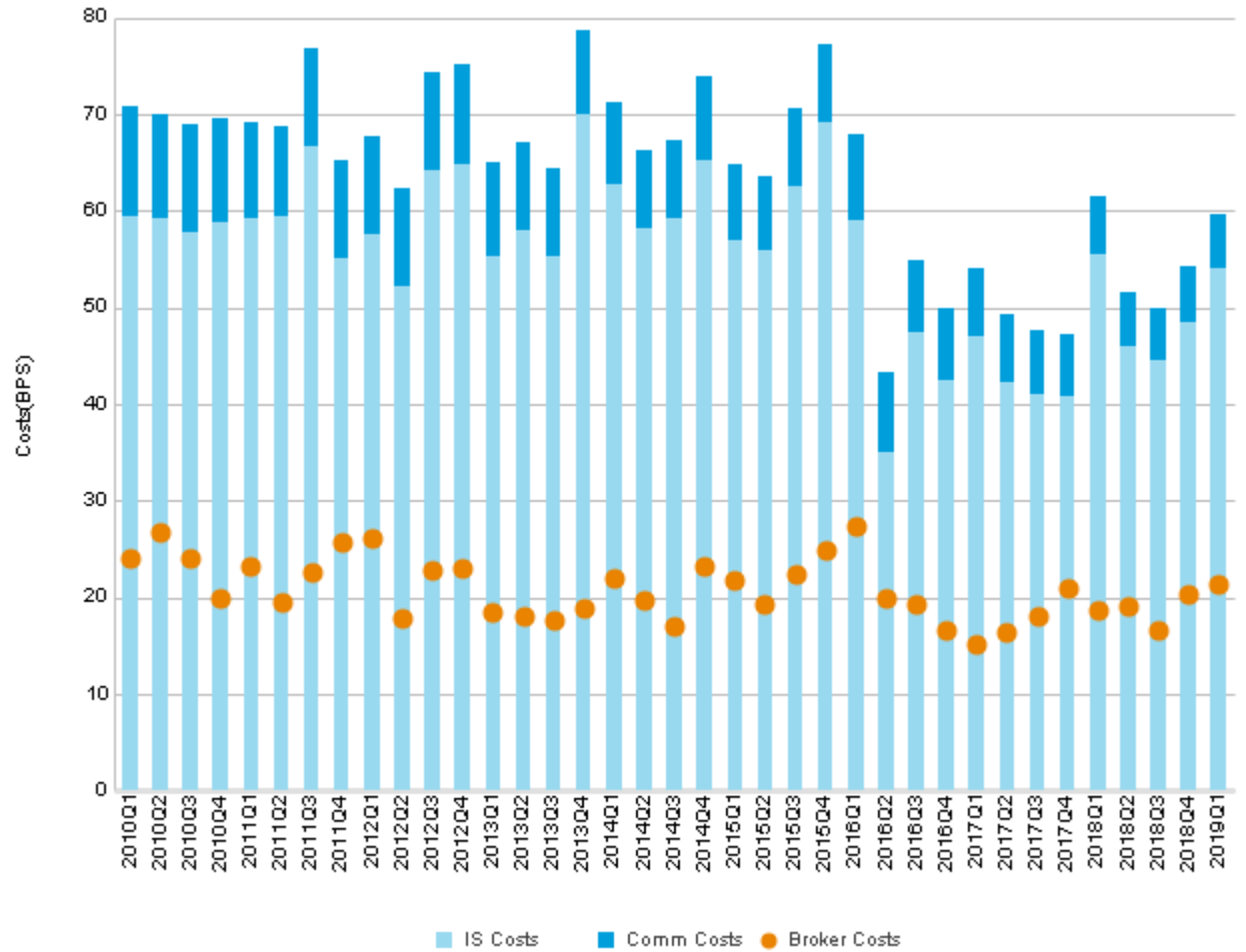
# United States - Small Cap (BPS)

| Quarter | IS Costs | Comm Costs | Total Costs | Broker Costs |
|---------|----------|------------|-------------|--------------|
| 2010Q1  | 123.2    | 20.8       | 144.0       | 43.2         |
| 2010Q2  | 103.2    | 19.4       | 122.6       | 36.4         |
| 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  | 98.7     | 11.0       | 109.8       | 28.1         |



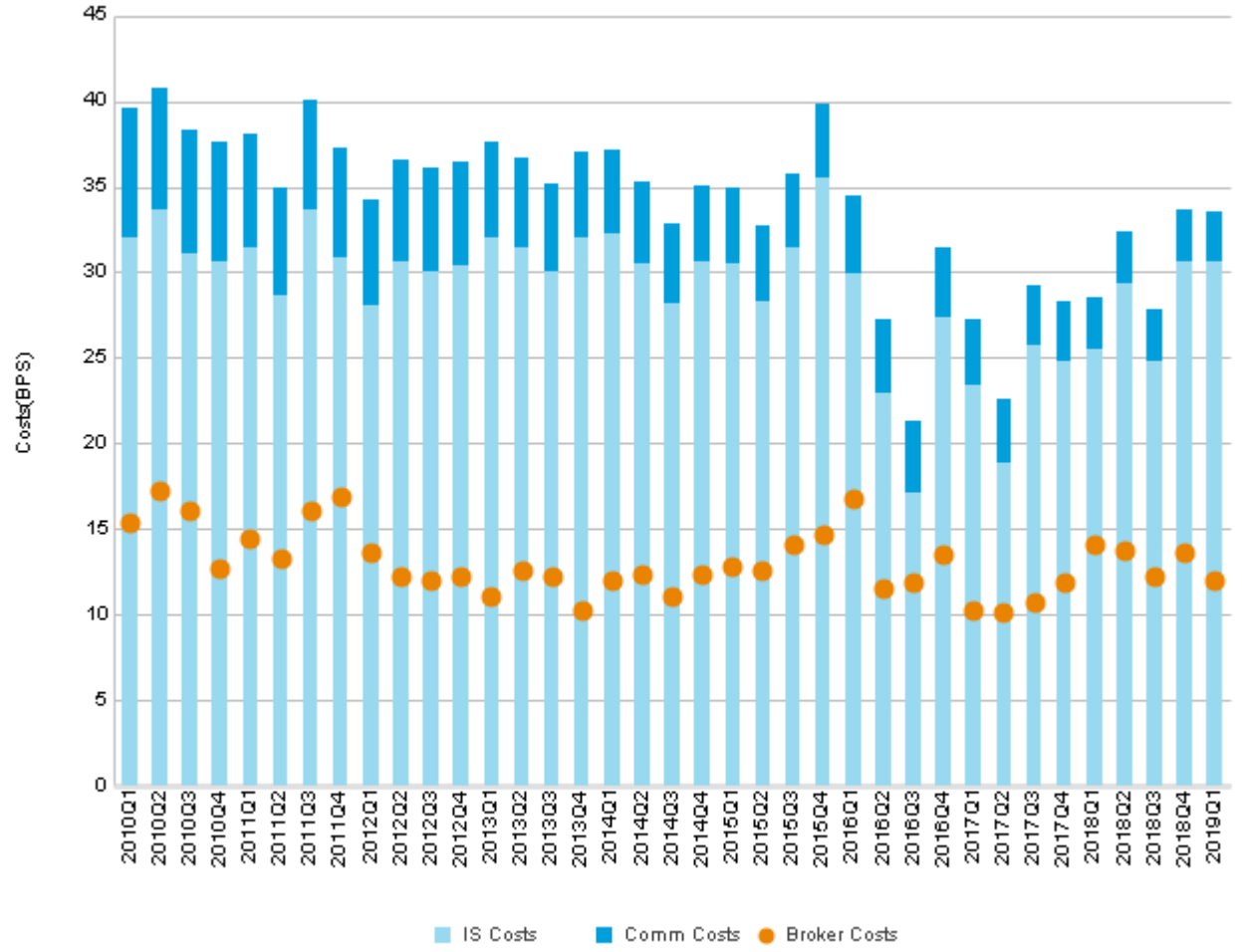
# United States - Mid Cap (BPS)

| Quarter | IS Costs | Comm Costs | Total Costs | Broker Costs |
|---------|----------|------------|-------------|--------------|
| 2010Q1  | 59.4     | 11.4       | 70.8        | 24.0         |
| 2010Q2  | 59.2     | 10.8       | 70.0        | 26.8         |
| 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  | 54.1     | 5.6        | 59.7        | 21.5         |



# United States - Large Cap (BPS)

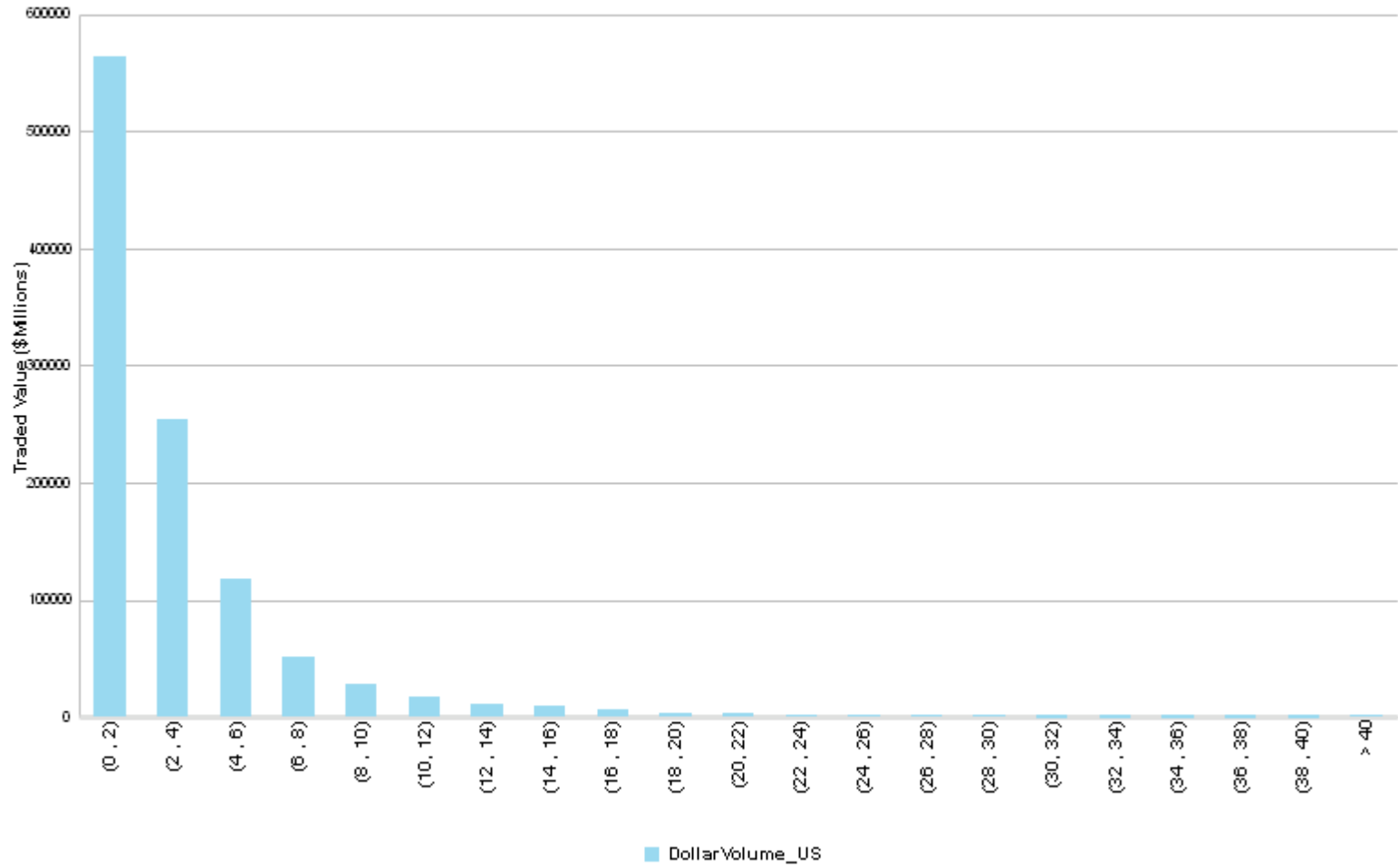
| Quarter | IS Costs | Comm Costs | Total Costs | Broker Costs |
|---------|----------|------------|-------------|--------------|
| 2010Q1  | 32.0     | 7.6        | 39.6        | 15.4         |
| 2010Q2  | 33.7     | 7.1        | 40.8        | 17.3         |
| 2010Q3  | 31.1     | 7.2        | 38.4        | 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  | 30.7     | 2.9        | 33.5        | 12.0         |





# United States Commission (BPS)

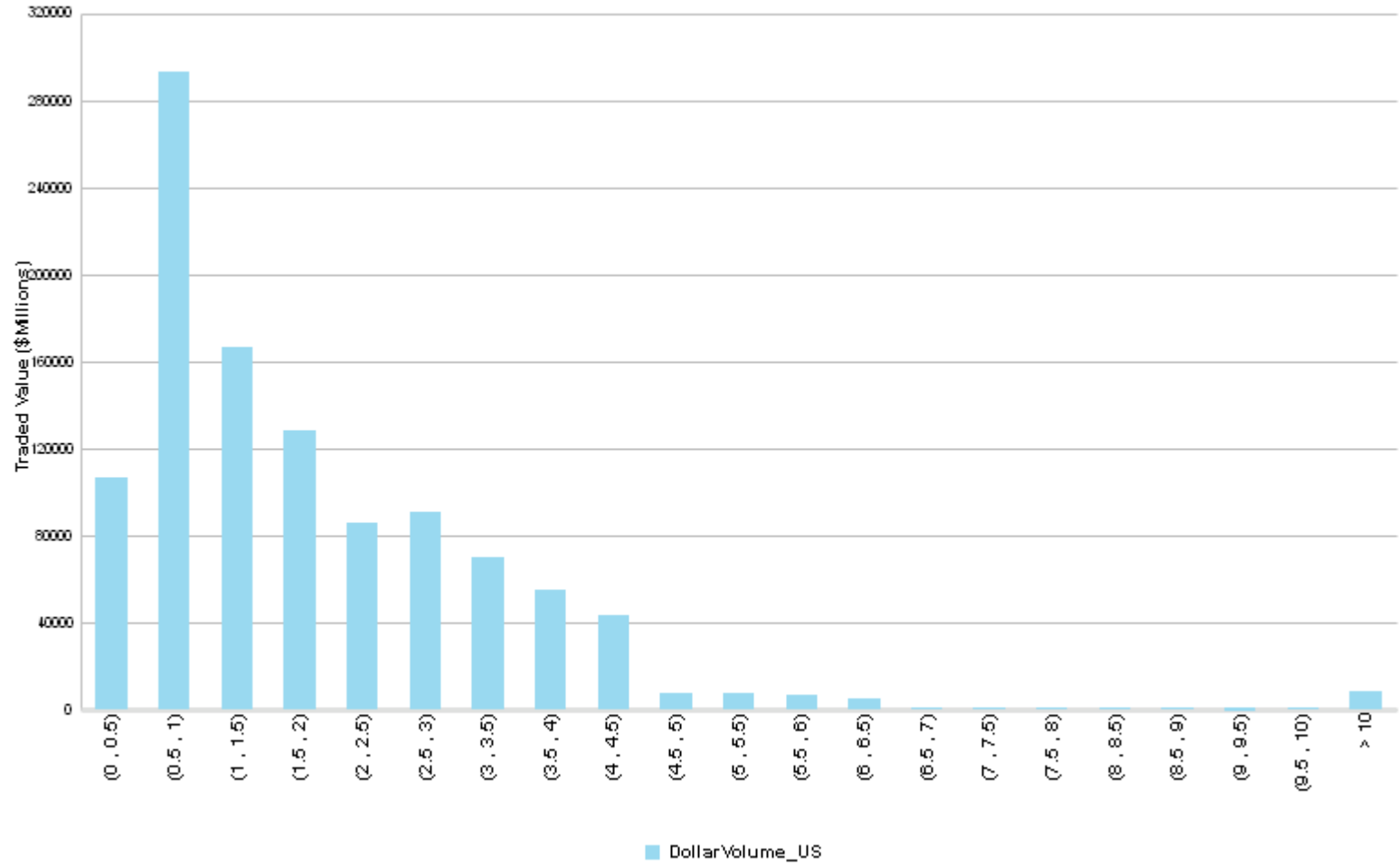
| Commission (BPS) | Traded Value (USD Millions) |
|------------------|-----------------------------|
| (0 , 2)          | 563,241                     |
| (2 , 4)          | 254,396                     |
| (4 , 6)          | 118,716                     |
| (6 , 8)          | 51,297                      |
| (8 , 10)         | 28,855                      |
| (10 , 12)        | 16,974                      |
| (12 , 14)        | 11,547                      |
| (14 , 16)        | 9,764                       |
| (16 , 18)        | 6,050                       |
| (18 , 20)        | 3,782                       |
| (20 , 22)        | 3,023                       |
| (22 , 24)        | 2,416                       |
| (24 , 26)        | 1,809                       |
| (26 , 28)        | 1,399                       |
| (28 , 30)        | 1,097                       |
| (30 , 32)        | 773                         |
| (32 , 34)        | 892                         |
| (34 , 36)        | 698                         |
| (36 , 38)        | 401                         |
| (38 , 40)        | 388                         |
| > 40             | 2,107                       |
| <b>Total</b>     | <b>1,079,625</b>            |



| Market Cap   | Avg Commission (BPS) | Traded Value (USD Millions) |
|--------------|----------------------|-----------------------------|
| Micro Cap    | 16.0                 | 1,495                       |
| Small Cap    | 11.0                 | 9,937                       |
| Mid Cap      | 5.6                  | 174,402                     |
| Large Cap    | 2.9                  | 893,791                     |
| <b>Total</b> | <b>3.4</b>           | <b>1,079,625</b>            |

# United States Commission (CPS)

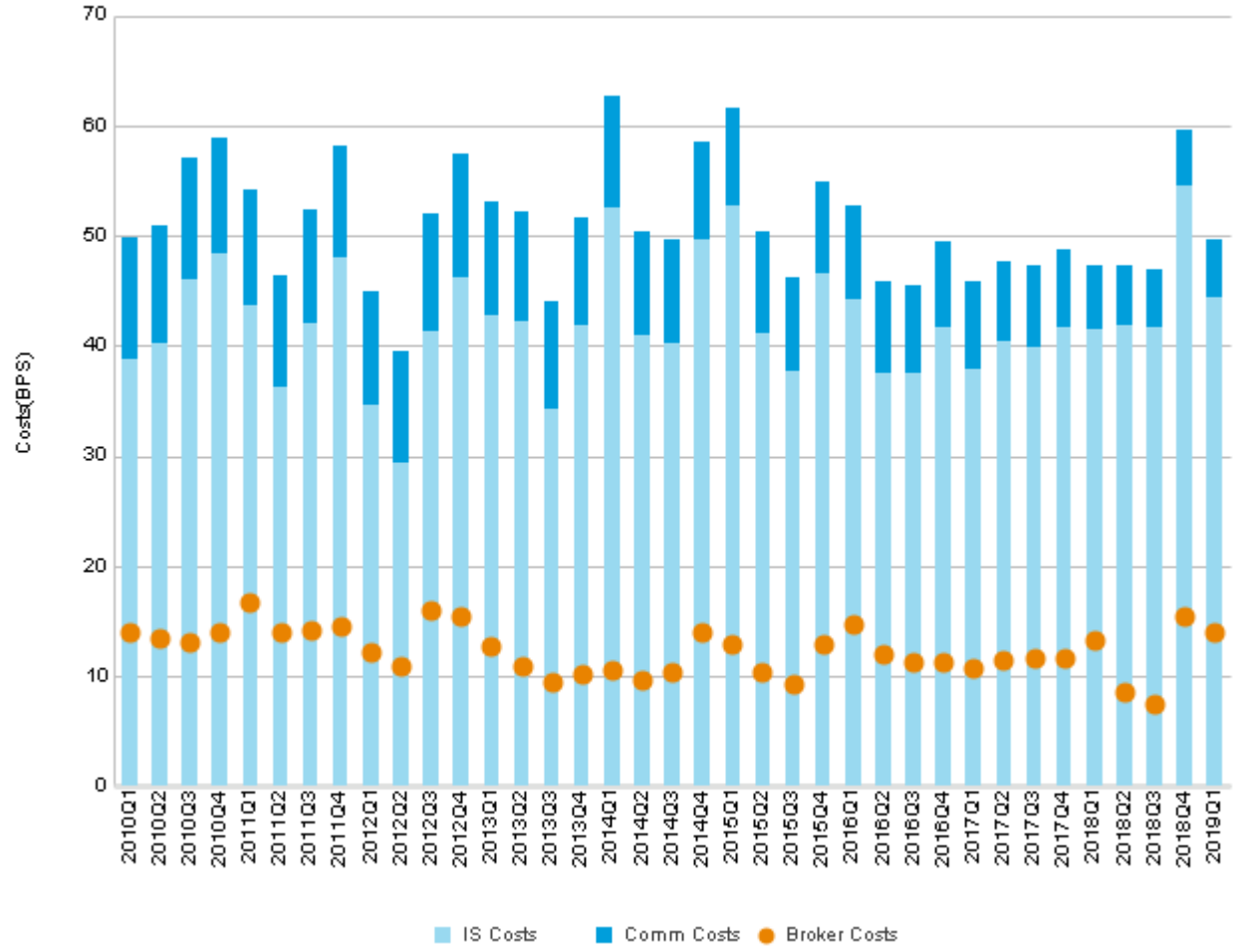
| Commission (CPS) | Traded Value (USD Millions) |
|------------------|-----------------------------|
| (0 , 0.5)        | 106,593                     |
| (0.5 , 1)        | 292,690                     |
| (1 , 1.5)        | 166,429                     |
| (1.5 , 2)        | 128,477                     |
| (2 , 2.5)        | 85,880                      |
| (2.5 , 3)        | 90,553                      |
| (3 , 3.5)        | 69,998                      |
| (3.5 , 4)        | 54,794                      |
| (4 , 4.5)        | 43,005                      |
| (4.5 , 5)        | 7,324                       |
| (5 , 5.5)        | 7,281                       |
| (5.5 , 6)        | 6,711                       |
| (6 , 6.5)        | 5,432                       |
| (6.5 , 7)        | 830                         |
| (7 , 7.5)        | 937                         |
| (7.5 , 8)        | 736                         |
| (8 , 8.5)        | 1,163                       |
| (8.5 , 9)        | 815                         |
| (9 , 9.5)        | 520                         |
| (9.5 , 10)       | 686                         |
| > 10             | 8,769                       |
| <b>Total</b>     | <b>1,079,625</b>            |



| Market Cap   | Avg Commission (CPS) | Traded Value (USD Millions) |
|--------------|----------------------|-----------------------------|
| Micro Cap    | 0.9                  | 1,495                       |
| Small Cap    | 1.0                  | 9,937                       |
| Mid Cap      | 1.3                  | 174,402                     |
| Large Cap    | 1.7                  | 893,791                     |
| <b>Total</b> | <b>1.5</b>           | <b>1,079,625</b>            |

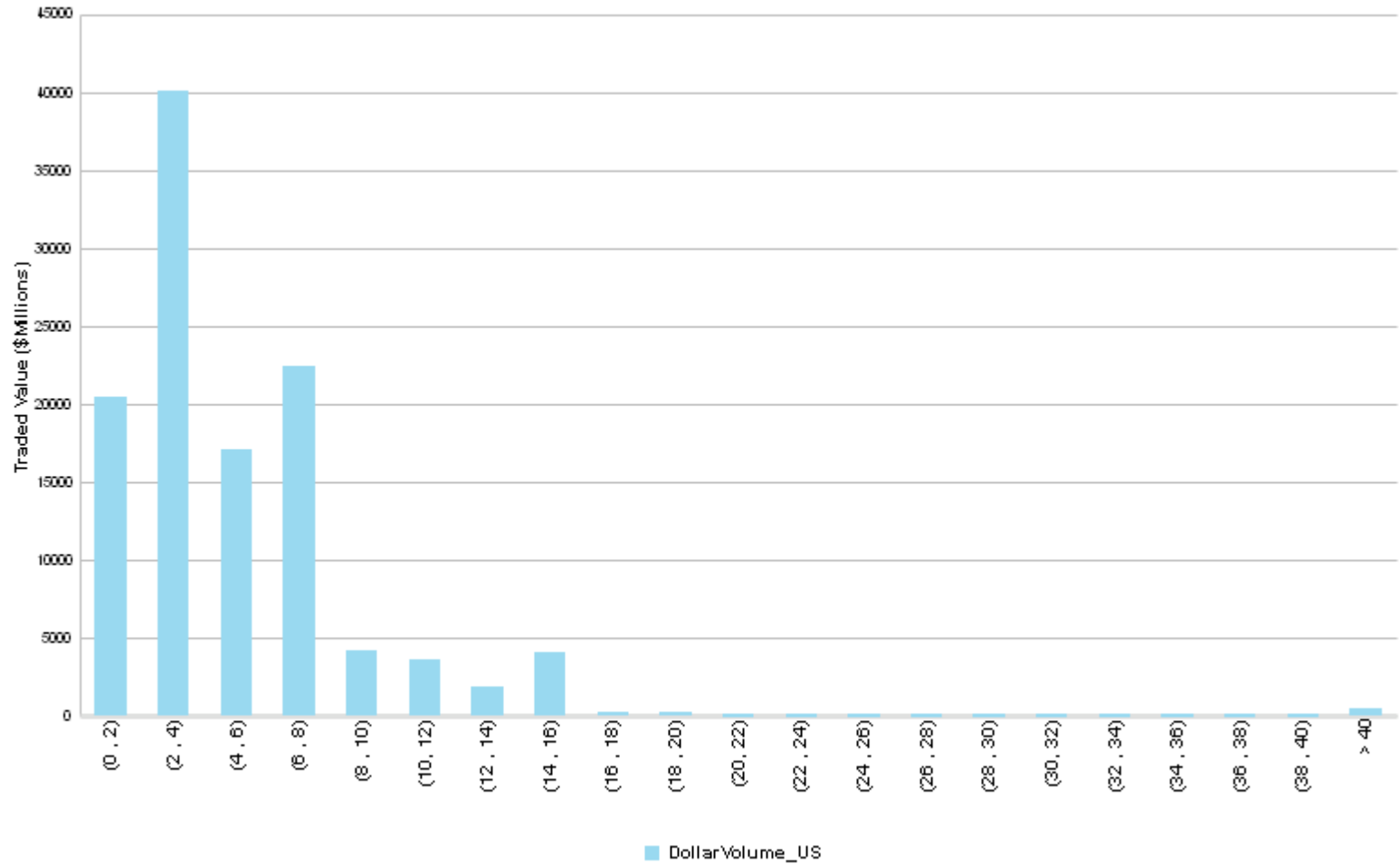
# United Kingdom (BPS)

| Quarter | IS Costs | Comm Costs | Total Costs | Broker_BPS |
|---------|----------|------------|-------------|------------|
| 2010Q1  | 38.7     | 11.1       | 49.8        | 13.9       |
| 2010Q2  | 40.3     | 10.7       | 51.0        | 13.4       |
| 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  | 44.4     | 5.2        | 49.6        | 14.0       |



# United Kingdom Commission (BPS)

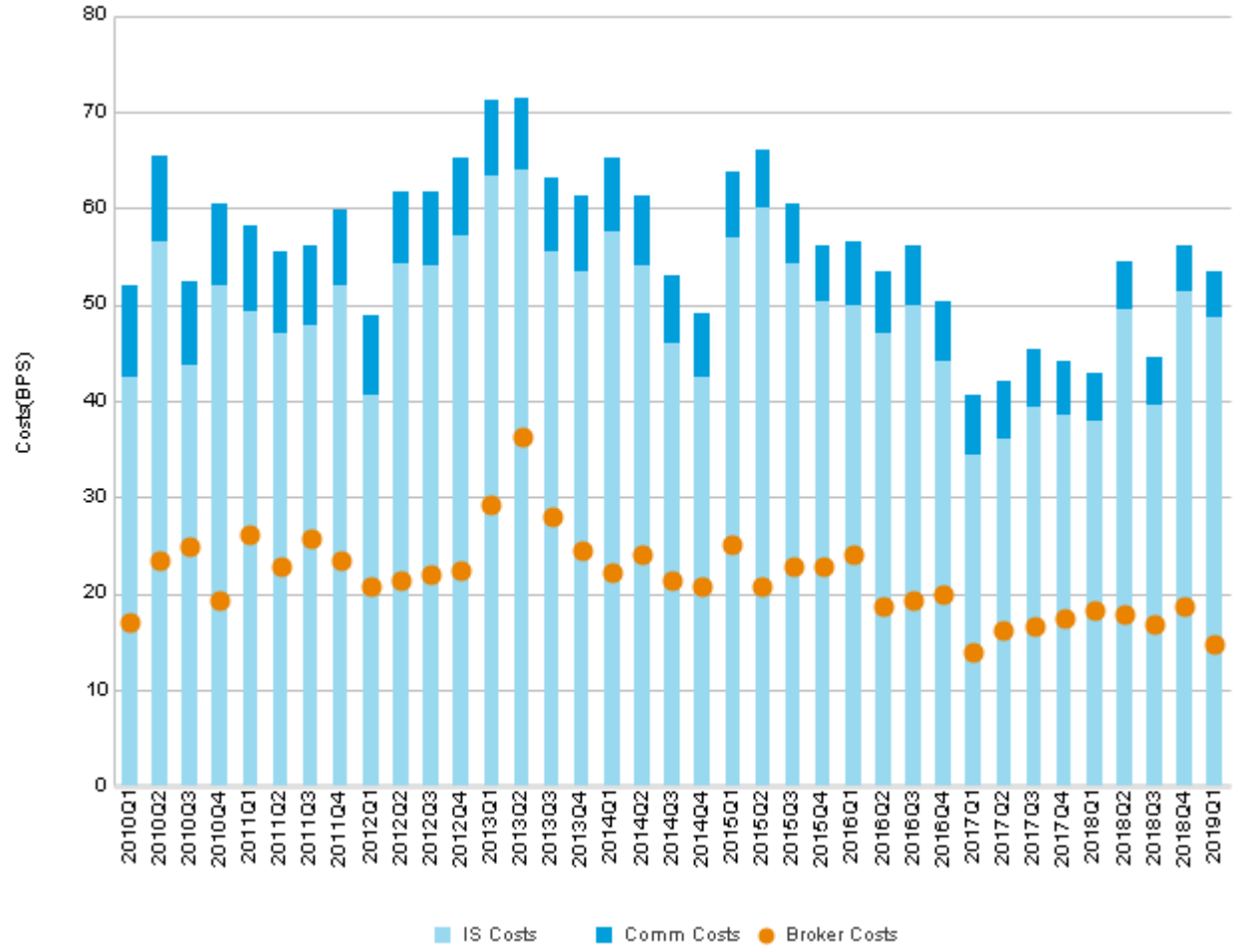
| Commission (BPS) | Traded Value (USD Millions) |
|------------------|-----------------------------|
| (0 , 2)          | 20,459                      |
| (2 , 4)          | 40,138                      |
| (4 , 6)          | 17,062                      |
| (6 , 8)          | 22,432                      |
| (8 , 10)         | 4,250                       |
| (10 , 12)        | 3,672                       |
| (12 , 14)        | 1,849                       |
| (14 , 16)        | 4,065                       |
| (16 , 18)        | 194                         |
| (18 , 20)        | 200                         |
| (20 , 22)        | 47                          |
| (22 , 24)        | 32                          |
| (24 , 26)        | 5                           |
| (26 , 28)        | 19                          |
| (28 , 30)        | 11                          |
| (30 , 32)        | 70                          |
| (32 , 34)        | 30                          |
| (34 , 36)        | 29                          |
| (36 , 38)        | 39                          |
| (38 , 40)        | 24                          |
| > 40             | 460                         |
| <b>Total</b>     | <b>115,087</b>              |



| Market Cap   | Avg Commission (BPS) | Traded Value (USD Millions) |
|--------------|----------------------|-----------------------------|
| Micro Cap    | 5.5                  | 193                         |
| Small Cap    | 7.9                  | 1,283                       |
| Mid Cap      | 5.8                  | 21,839                      |
| Large Cap    | 5.0                  | 91,772                      |
| <b>Total</b> | <b>5.2</b>           | <b>115,087</b>              |

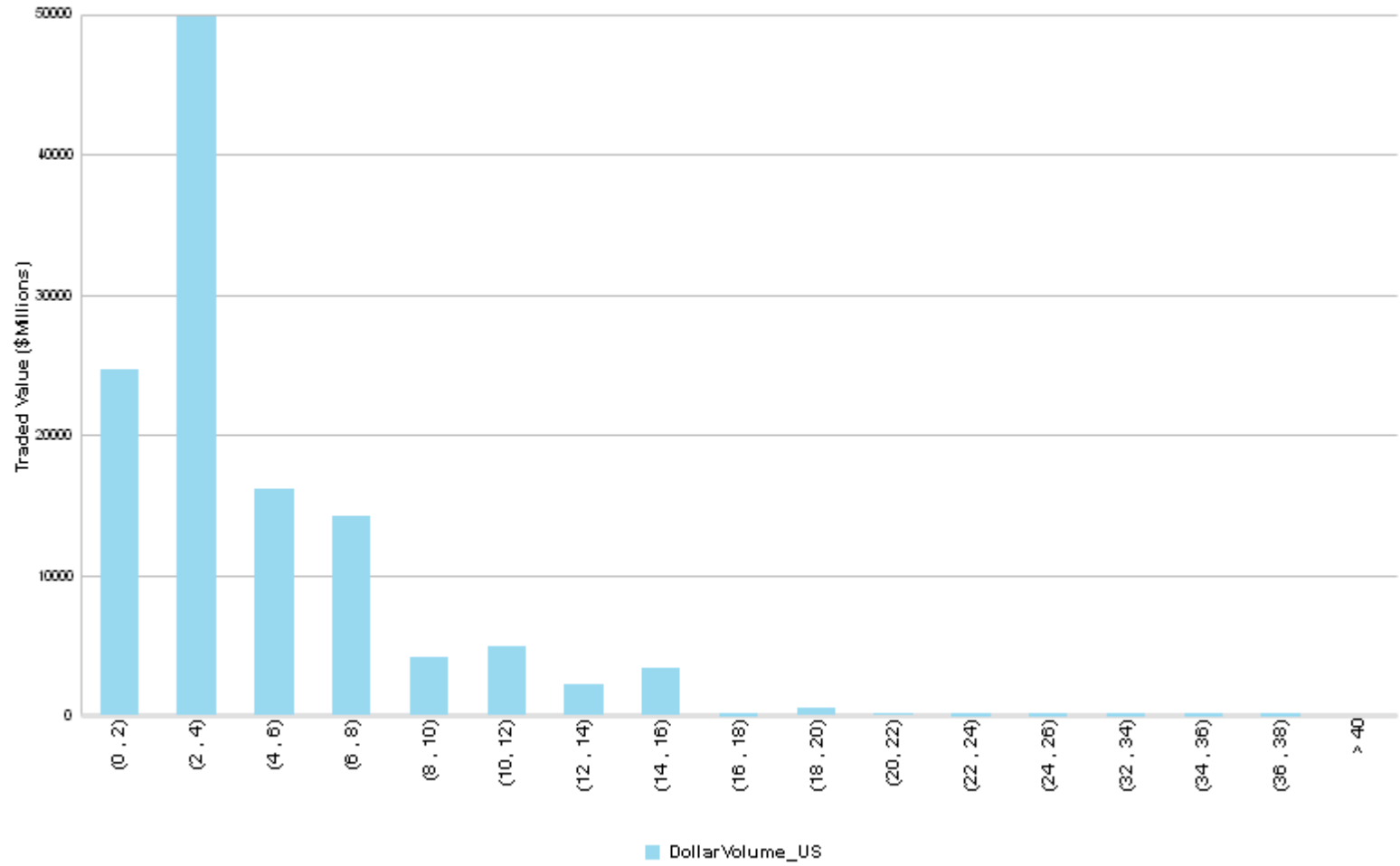
# Japan (BPS)

| Quarter | IS Costs | Comm Costs | Total Costs | Broker Costs |
|---------|----------|------------|-------------|--------------|
| 2010Q1  | 42.5     | 9.4        | 51.9        | 17.1         |
| 2010Q2  | 56.6     | 8.9        | 65.5        | 23.4         |
| 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  | 48.7     | 4.7        | 53.4        | 14.7         |



# Japan Commission (BPS)

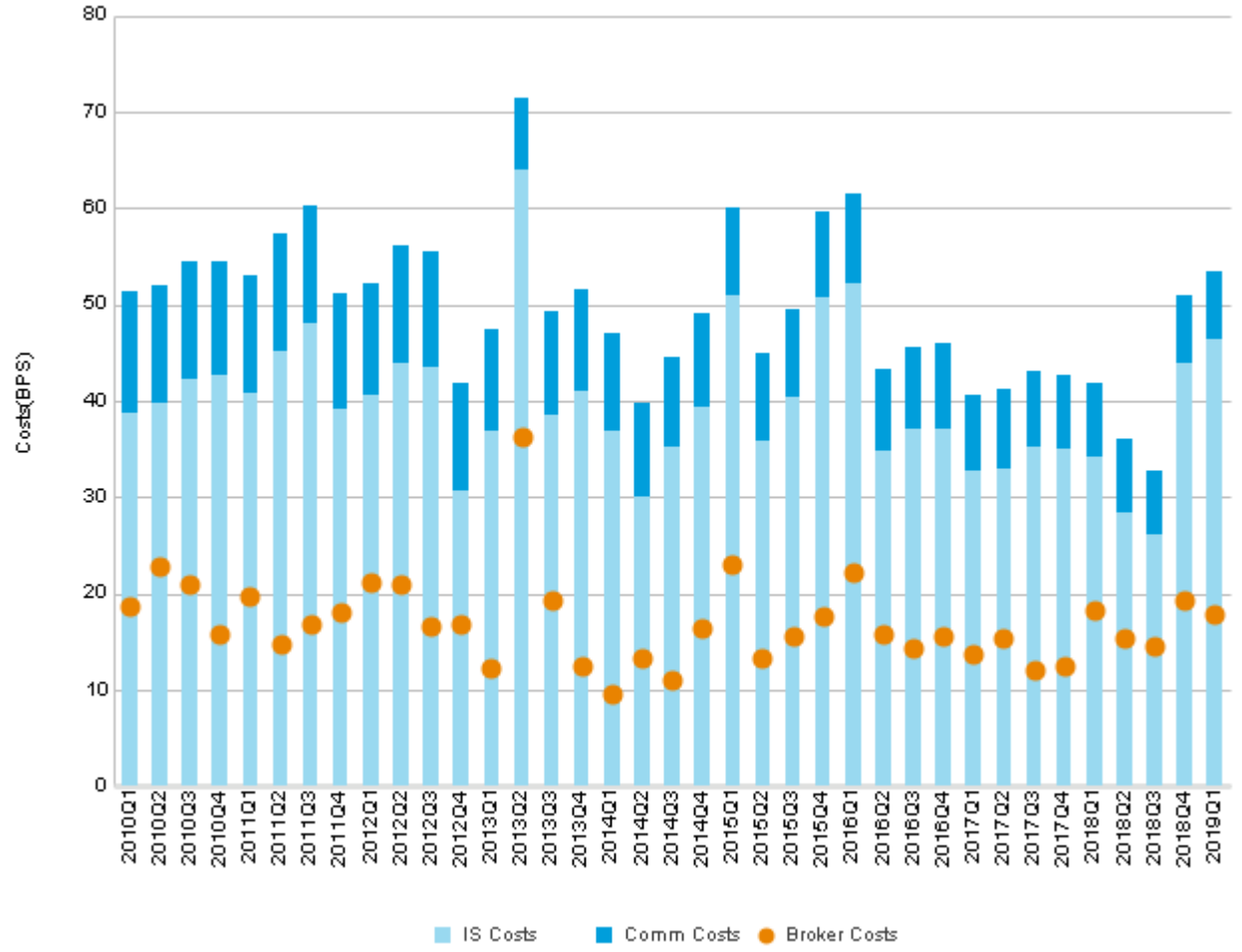
| Commission (BPS) | Traded Value (USD Millions) |
|------------------|-----------------------------|
| (0 , 2)          | 24,639                      |
| (2 , 4)          | 49,861                      |
| (4 , 6)          | 16,110                      |
| (6 , 8)          | 14,270                      |
| (8 , 10)         | 4,183                       |
| (10 , 12)        | 4,872                       |
| (12 , 14)        | 2,172                       |
| (14 , 16)        | 3,440                       |
| (16 , 18)        | 47                          |
| (18 , 20)        | 561                         |
| (20 , 22)        | 96                          |
| (22 , 24)        | 8                           |
| (24 , 26)        | 19                          |
| (32 , 34)        | 37                          |
| (34 , 36)        | 6                           |
| (36 , 38)        | 4                           |
| > 40             | <1                          |
| <b>Total</b>     | <b>120,324</b>              |



| Market Cap   | Avg Commission (BPS) | Traded Value (USD Millions) |
|--------------|----------------------|-----------------------------|
| Micro Cap    | 3.8                  | 96                          |
| Small Cap    | 4.2                  | 1,541                       |
| Mid Cap      | 4.6                  | 26,625                      |
| Large Cap    | 4.7                  | 92,062                      |
| <b>Total</b> | <b>4.7</b>           | <b>120,324</b>              |

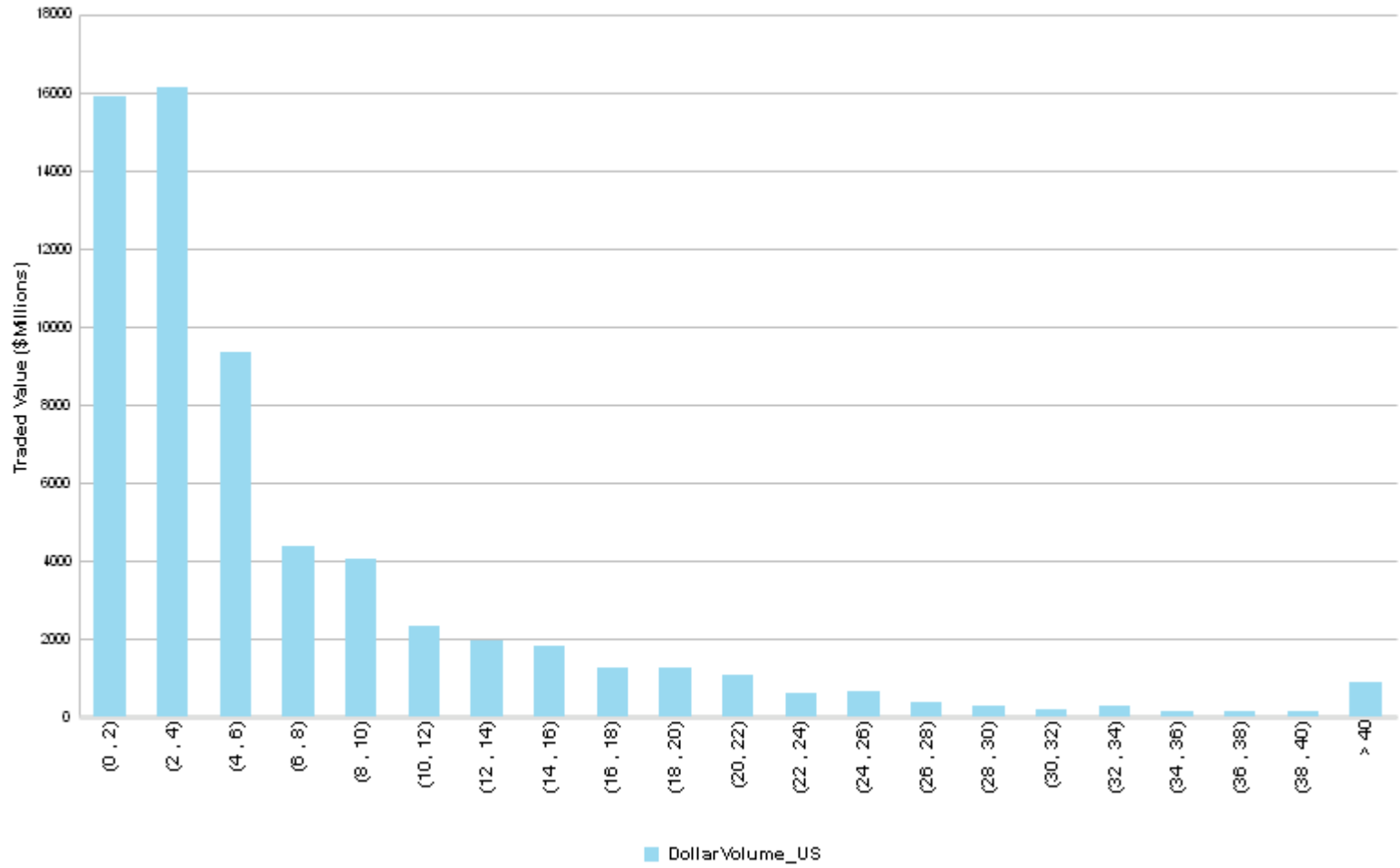
# Canada (BPS)

| Quarter | IS Costs | Comm Costs | Total Costs | Broker Costs |
|---------|----------|------------|-------------|--------------|
| 2010Q1  | 38.8     | 12.6       | 51.4        | 18.7         |
| 2010Q2  | 39.8     | 12.2       | 52.0        | 22.9         |
| 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  | 46.4     | 7.1        | 53.5        | 17.9         |



# Canada Commission (BPS)

| Commission (BPS) | Traded Value (USD Millions) |
|------------------|-----------------------------|
| (0 , 2)          | 15,873                      |
| (2 , 4)          | 16,116                      |
| (4 , 6)          | 9,362                       |
| (6 , 8)          | 4,389                       |
| (8 , 10)         | 4,033                       |
| (10 , 12)        | 2,319                       |
| (12 , 14)        | 1,977                       |
| (14 , 16)        | 1,814                       |
| (16 , 18)        | 1,258                       |
| (18 , 20)        | 1,271                       |
| (20 , 22)        | 1,079                       |
| (22 , 24)        | 620                         |
| (24 , 26)        | 643                         |
| (26 , 28)        | 399                         |
| (28 , 30)        | 297                         |
| (30 , 32)        | 196                         |
| (32 , 34)        | 264                         |
| (34 , 36)        | 141                         |
| (36 , 38)        | 164                         |
| (38 , 40)        | 133                         |
| > 40             | 884                         |
| <b>Total</b>     | <b>63,231</b>               |

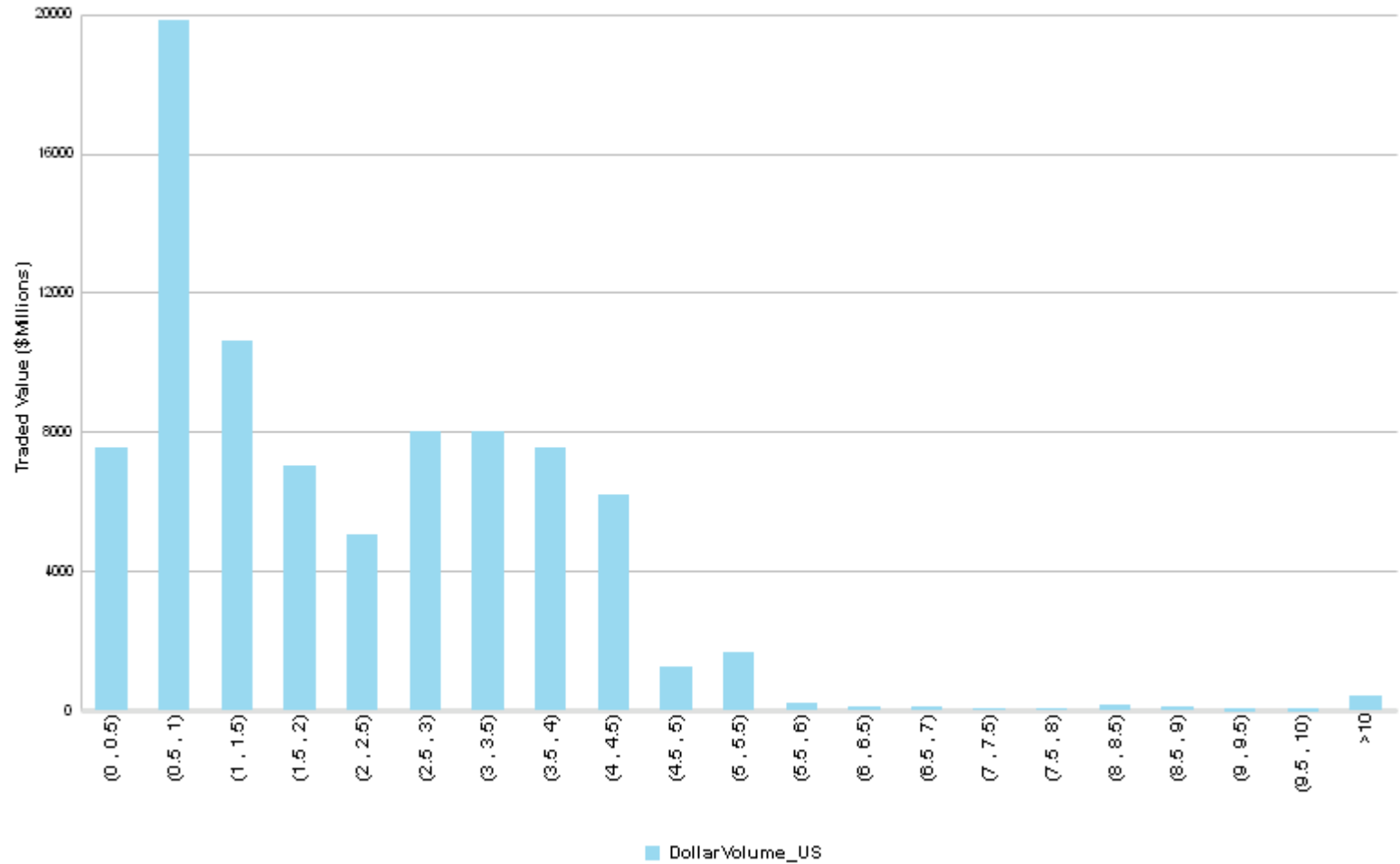


| Market Cap   | Avg Commission (BPS) | Traded Value (USD Millions) |
|--------------|----------------------|-----------------------------|
| Micro Cap    | 10.3                 | 1,101                       |
| Small Cap    | 17.0                 | 2,230                       |
| Mid Cap      | 10.5                 | 16,896                      |
| Large Cap    | 5.2                  | 43,005                      |
| <b>Total</b> | <b>7.1</b>           | <b>63,231</b>               |



# Canada Commission (CAD CPS)

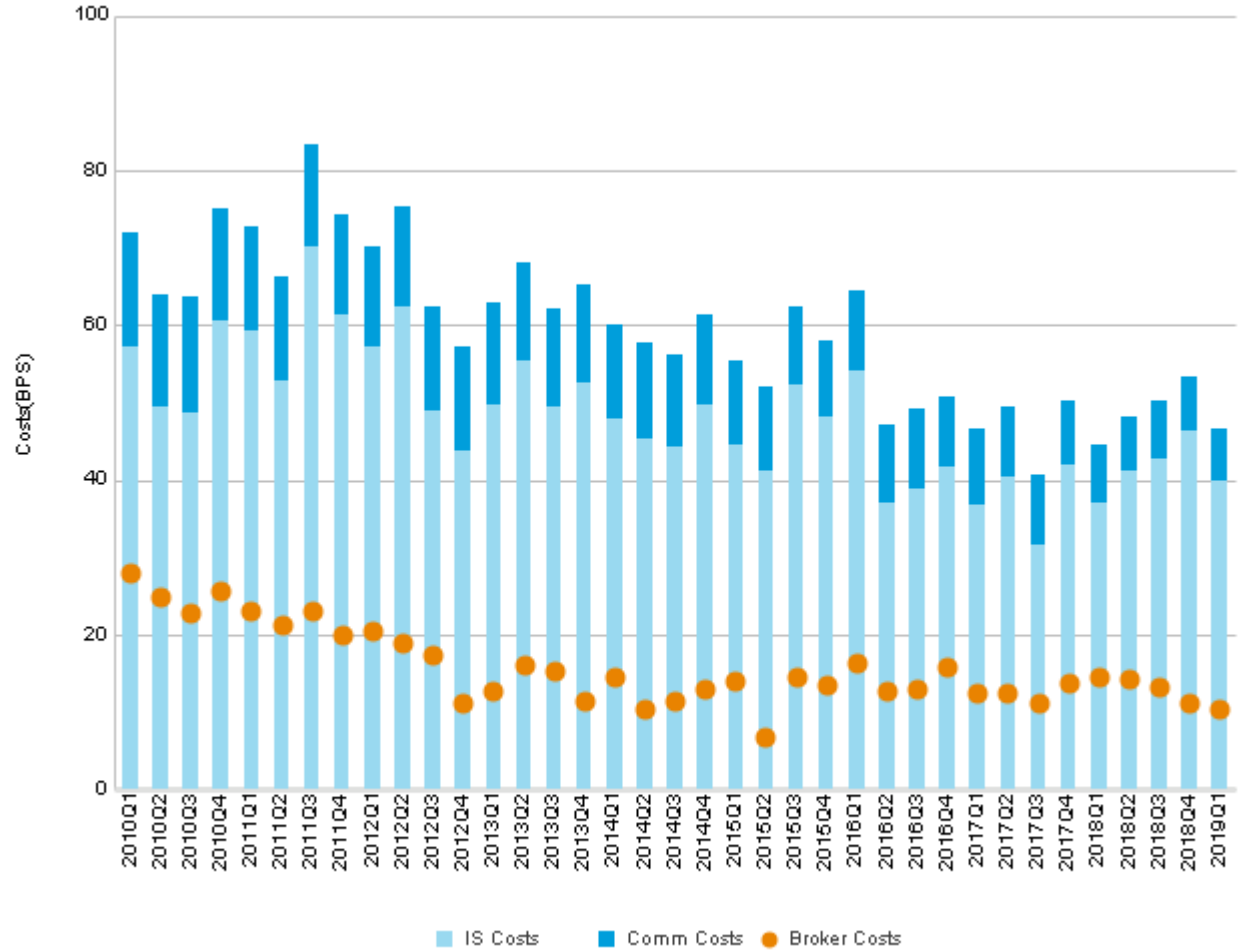
| Commission (CAD CPS) | Traded Value (CAD Millions) |
|----------------------|-----------------------------|
| (0 , 0.5)            | 7,563                       |
| (0.5 , 1)            | 19,832                      |
| (1 , 1.5)            | 10,643                      |
| (1.5 , 2)            | 7,056                       |
| (2 , 2.5)            | 5,041                       |
| (2.5 , 3)            | 8,034                       |
| (3 , 3.5)            | 8,038                       |
| (3.5 , 4)            | 7,548                       |
| (4 , 4.5)            | 6,191                       |
| (4.5 , 5)            | 1,232                       |
| (5 , 5.5)            | 1,671                       |
| (5.5 , 6)            | 197                         |
| (6 , 6.5)            | 87                          |
| (6.5 , 7)            | 101                         |
| (7 , 7.5)            | 43                          |
| (7.5 , 8)            | 51                          |
| (8 , 8.5)            | 156                         |
| (8.5 , 9)            | 102                         |
| (9 , 9.5)            | 16                          |
| (9.5 , 10)           | 13                          |
| >10                  | 426                         |
| <b>Total</b>         | <b>84,040</b>               |



| Market Cap   | Avg Commission (CAD CPS) | Traded Value (CAD Millions) |
|--------------|--------------------------|-----------------------------|
| Micro Cap    | 0.7                      | 1,457                       |
| Small Cap    | 1.2                      | 2,963                       |
| Mid Cap      | 1.5                      | 22,458                      |
| Large Cap    | 2.0                      | 57,162                      |
| <b>Total</b> | <b>1.6</b>               | <b>84,040</b>               |

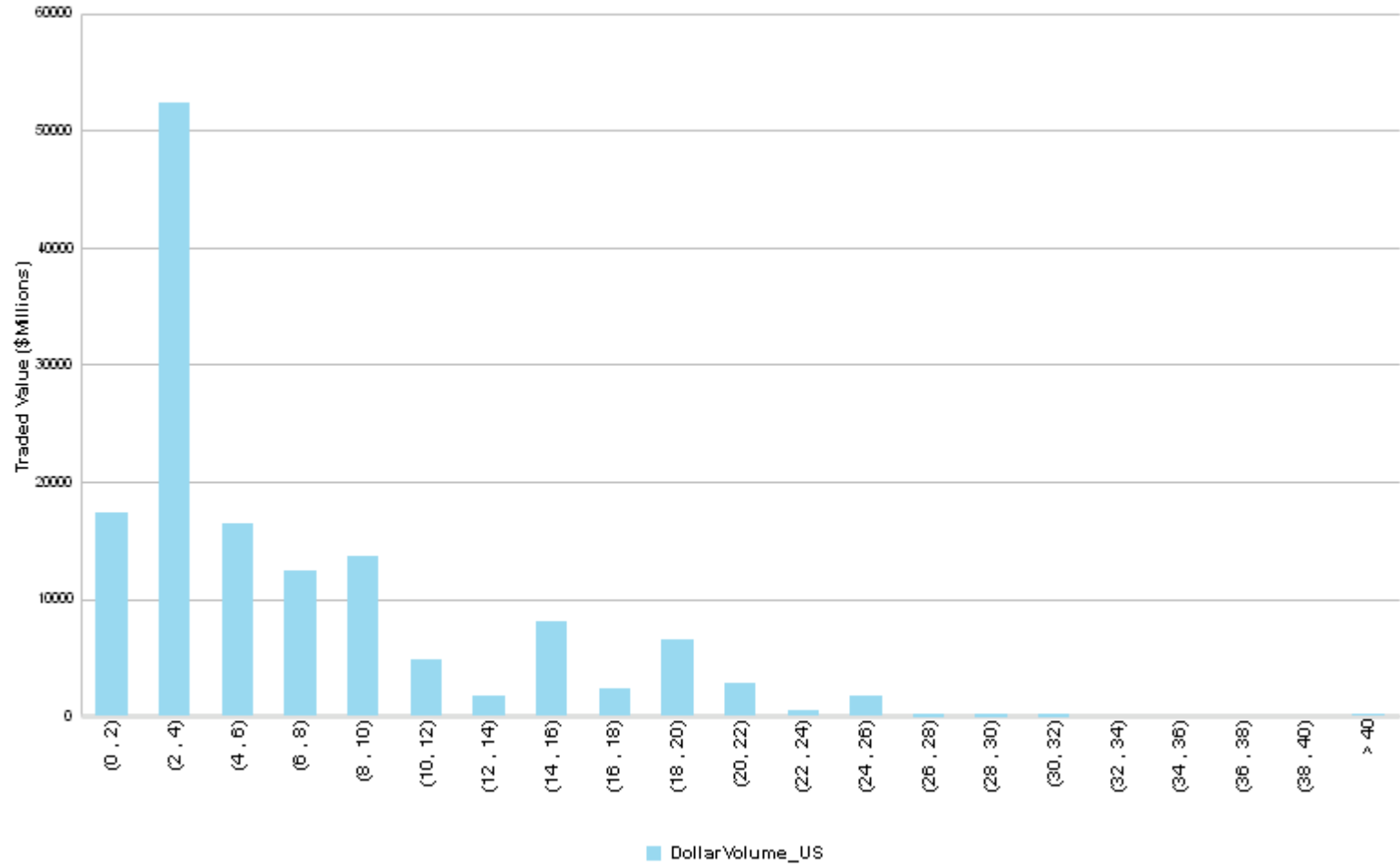
# Asia Pacific ex - Japan(BPS)

| Quarter | IS Costs | Comm Costs | Total Costs | Broker Costs |
|---------|----------|------------|-------------|--------------|
| 2010Q1  | 57.2     | 14.8       | 72.0        | 28.0         |
| 2010Q2  | 49.5     | 14.5       | 64.0        | 24.9         |
| 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  | 39.8     | 6.9        | 46.7        | 10.3         |



## Asia Pacific ex - Japan Commission (BPS)

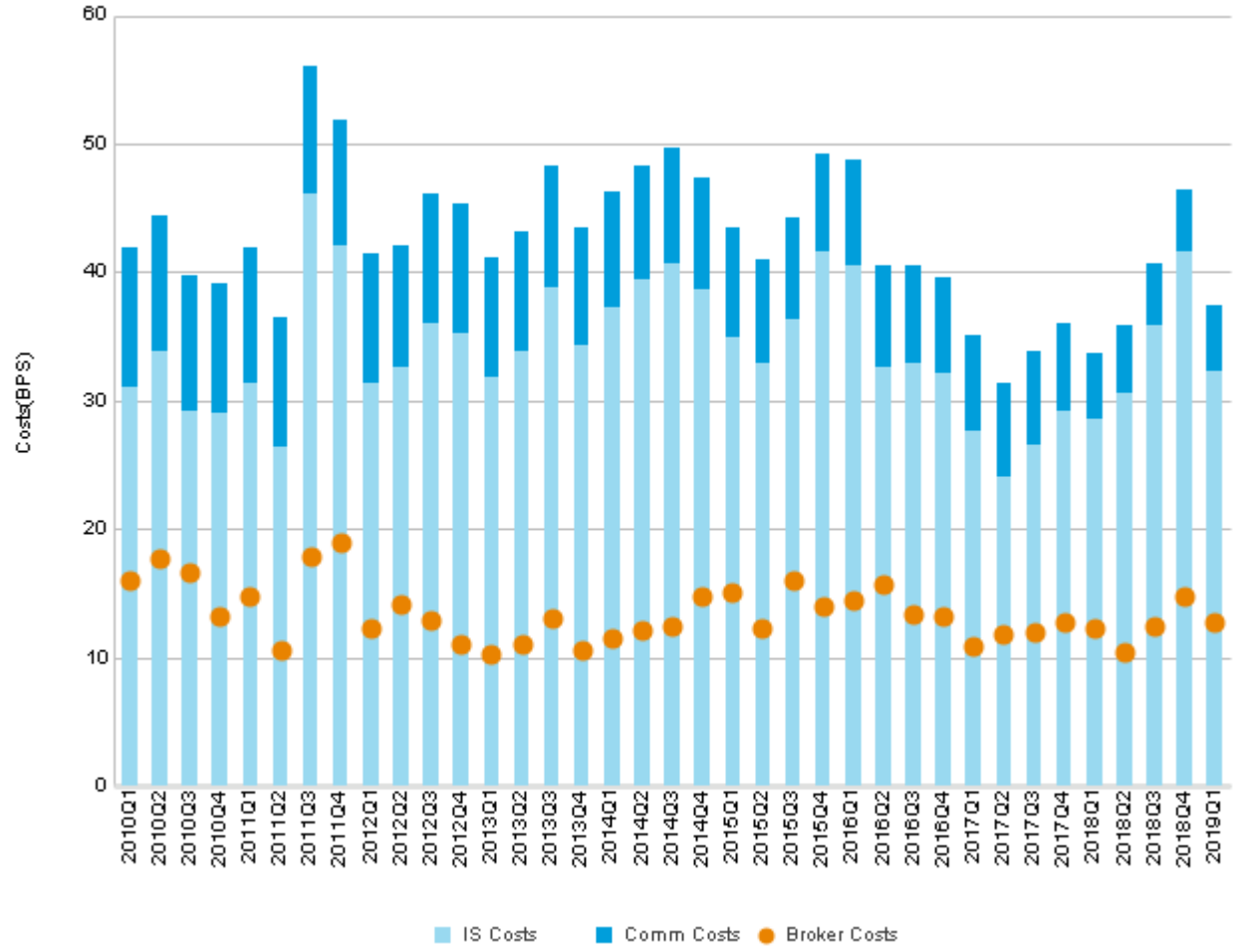
| Commission (BPS) | Traded Value (USD Millions) |
|------------------|-----------------------------|
| (0 , 2)          | 17,353                      |
| (2 , 4)          | 52,370                      |
| (4 , 6)          | 16,502                      |
| (6 , 8)          | 12,379                      |
| (8 , 10)         | 13,650                      |
| (10 , 12)        | 4,848                       |
| (12 , 14)        | 1,697                       |
| (14 , 16)        | 8,073                       |
| (16 , 18)        | 2,294                       |
| (18 , 20)        | 6,589                       |
| (20 , 22)        | 2,802                       |
| (22 , 24)        | 447                         |
| (24 , 26)        | 1,652                       |
| (26 , 28)        | 62                          |
| (28 , 30)        | 45                          |
| (30 , 32)        | 12                          |
| (32 , 34)        | <1                          |
| (34 , 36)        | <1                          |
| (36 , 38)        | <1                          |
| (38 , 40)        | 2                           |
| > 40             | 156                         |
| <b>Total</b>     | <b>140,934</b>              |



| Market Cap   | Avg Commission (BPS) | Traded Value (USD Millions) |
|--------------|----------------------|-----------------------------|
| Micro Cap    | 9.2                  | 136                         |
| Small Cap    | 7.7                  | 1,091                       |
| Mid Cap      | 7.4                  | 30,419                      |
| Large Cap    | 6.7                  | 109,288                     |
| <b>Total</b> | <b>6.9</b>           | <b>140,934</b>              |

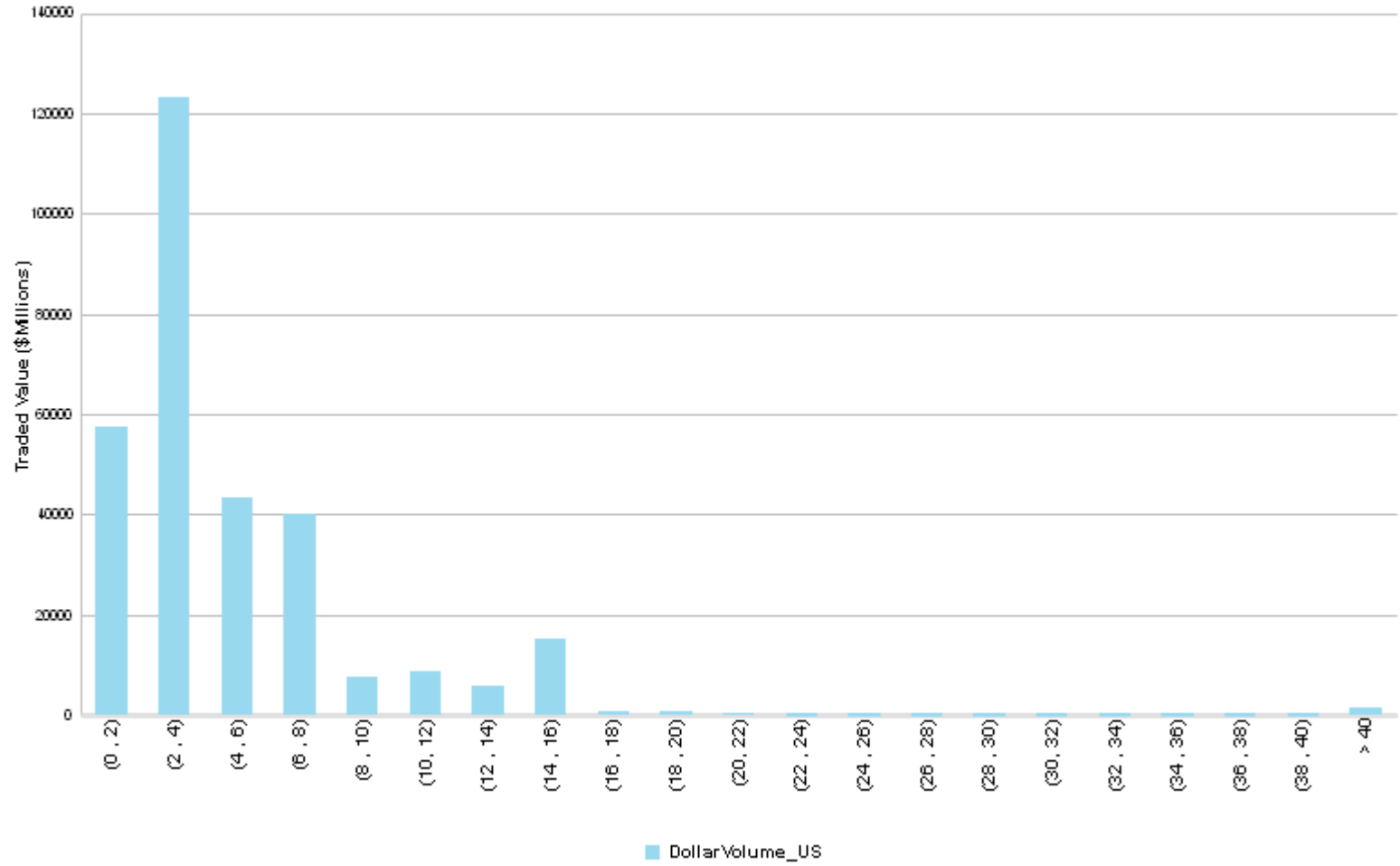
# Europe ex - UK (BPS)

| Quarter | IS Costs | Comm Costs | Total Costs | Broker_BPS |
|---------|----------|------------|-------------|------------|
| 2010Q1  | 31.0     | 10.9       | 41.9        | 16.0       |
| 2010Q2  | 33.9     | 10.5       | 44.4        | 17.8       |
| 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  | 32.3     | 5.1        | 37.4        | 12.8       |



# Europe ex - UK Commission (BPS)

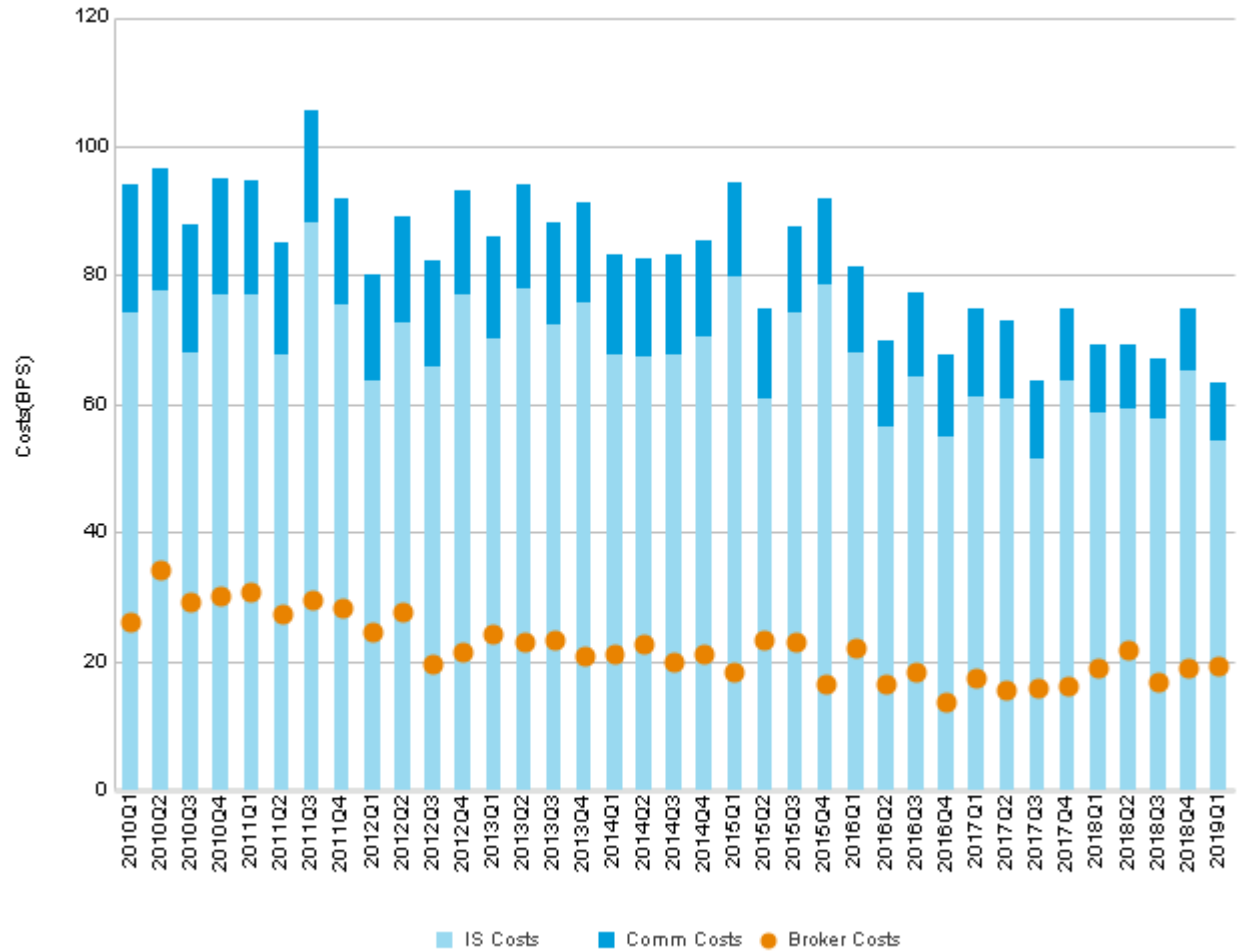
| Commission (BPS) | Traded Value (USD Millions) |
|------------------|-----------------------------|
| (0 , 2)          | 57,664                      |
| (2 , 4)          | 123,173                     |
| (4 , 6)          | 43,376                      |
| (6 , 8)          | 40,078                      |
| (8 , 10)         | 7,529                       |
| (10 , 12)        | 8,615                       |
| (12 , 14)        | 6,005                       |
| (14 , 16)        | 15,367                      |
| (16 , 18)        | 889                         |
| (18 , 20)        | 897                         |
| (20 , 22)        | 493                         |
| (22 , 24)        | 17                          |
| (24 , 26)        | 17                          |
| (26 , 28)        | 194                         |
| (28 , 30)        | 84                          |
| (30 , 32)        | 114                         |
| (32 , 34)        | 59                          |
| (34 , 36)        | 213                         |
| (36 , 38)        | 119                         |
| (38 , 40)        | 160                         |
| > 40             | 1,522                       |
| <b>Total</b>     | <b>306,585</b>              |



| Market Cap   | Avg Commission (BPS) | Traded Value (USD Millions) |
|--------------|----------------------|-----------------------------|
| Micro Cap    | 4.9                  | 105                         |
| Small Cap    | 6.6                  | 1,119                       |
| Mid Cap      | 5.6                  | 35,715                      |
| Large Cap    | 5.0                  | 269,647                     |
| <b>Total</b> | <b>5.1</b>           | <b>306,585</b>              |

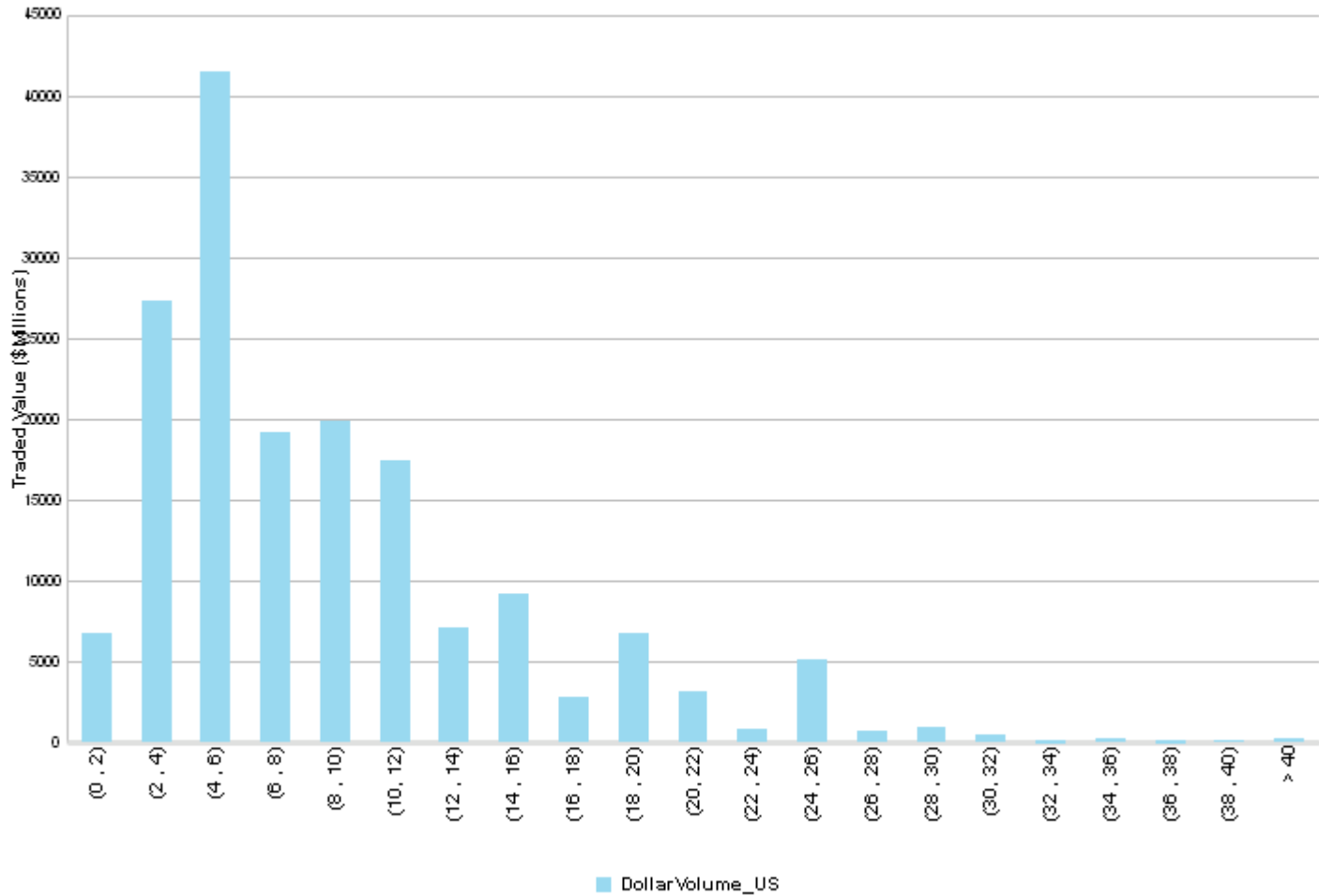
# Emerging Markets (BPS)

| Quarter | IS Costs | Comm Costs | Total Costs | Broker Costs |
|---------|----------|------------|-------------|--------------|
| 2010Q1  | 74.1     | 19.9       | 94.0        | 26.0         |
| 2010Q2  | 77.7     | 18.9       | 96.6        | 34.2         |
| 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  | 54.4     | 9.0        | 63.4        | 19.4         |



# Emerging Markets Commission (BPS)

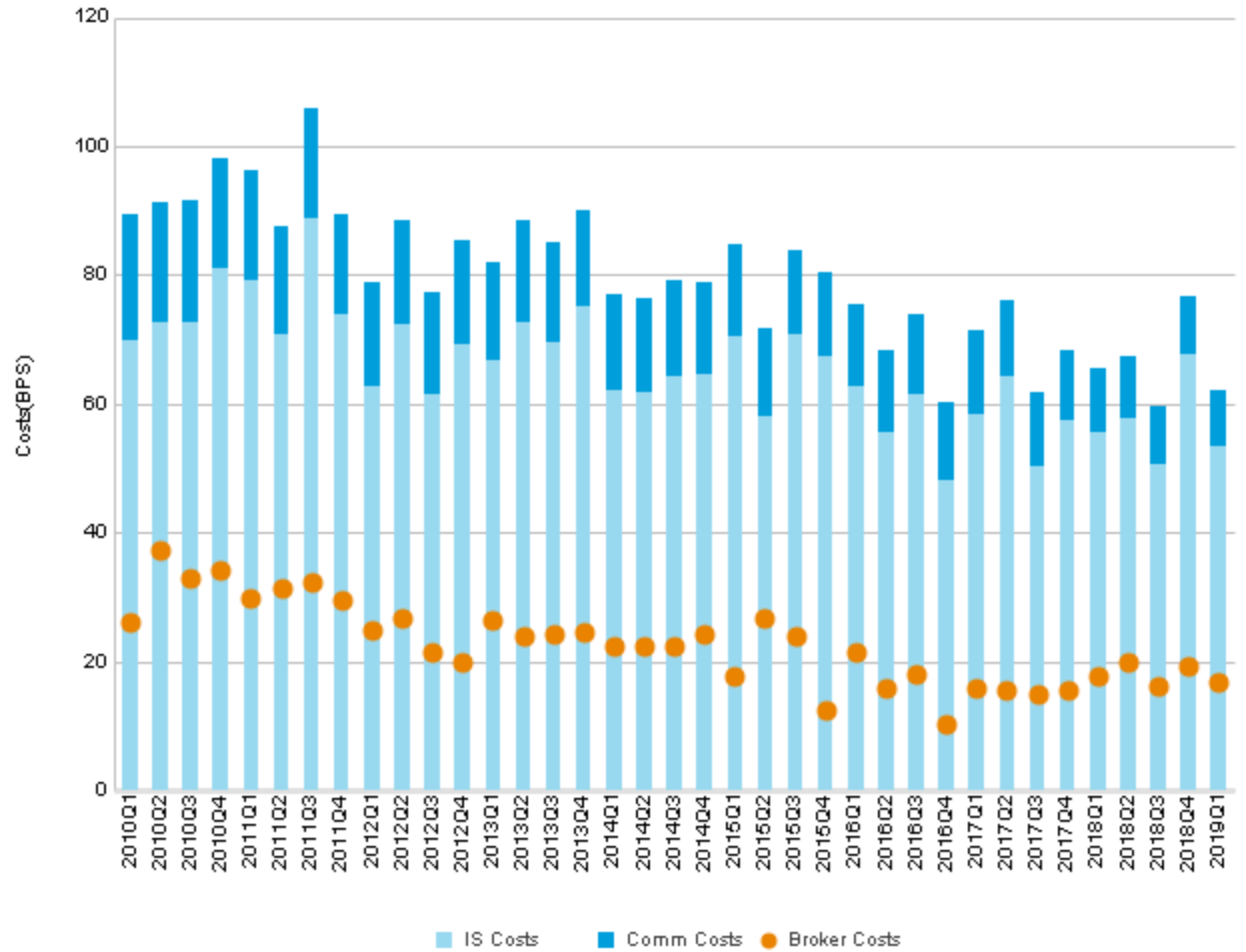
| Commission (BPS) | Traded Value (USD Millions) |
|------------------|-----------------------------|
| (0 , 2)          | 6,779                       |
| (2 , 4)          | 27,362                      |
| (4 , 6)          | 41,440                      |
| (6 , 8)          | 19,129                      |
| (8 , 10)         | 19,858                      |
| (10 , 12)        | 17,444                      |
| (12 , 14)        | 7,138                       |
| (14 , 16)        | 9,199                       |
| (16 , 18)        | 2,819                       |
| (18 , 20)        | 6,752                       |
| (20 , 22)        | 3,138                       |
| (22 , 24)        | 838                         |
| (24 , 26)        | 5,071                       |
| (26 , 28)        | 759                         |
| (28 , 30)        | 963                         |
| (30 , 32)        | 539                         |
| (32 , 34)        | 55                          |
| (34 , 36)        | 195                         |
| (36 , 38)        | 3                           |
| (38 , 40)        | 138                         |
| > 40             | 292                         |
| <b>Total</b>     | <b>169,913</b>              |



| Market Cap   | Avg Commission (BPS) | Traded Value (USD Millions) |
|--------------|----------------------|-----------------------------|
| Micro Cap    | 11.6                 | 534                         |
| Small Cap    | 8.5                  | 2,581                       |
| Mid Cap      | 8.9                  | 45,483                      |
| Large Cap    | 9.1                  | 121,315                     |
| <b>Total</b> | <b>9.0</b>           | <b>169,913</b>              |

# Emerging Asia (BPS)

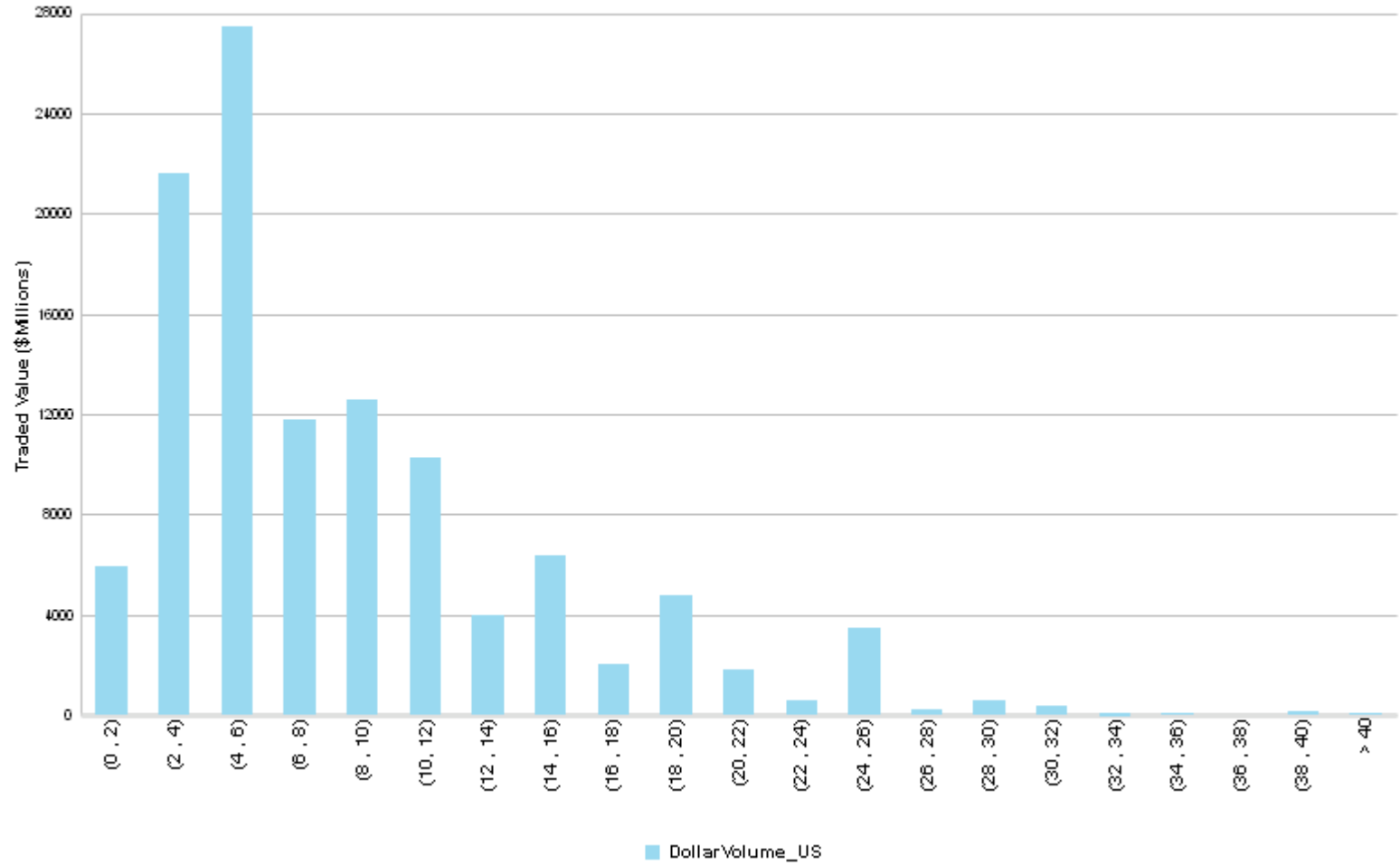
| Quarter | IS Costs | Comm Costs | Total Costs | Broker Costs |
|---------|----------|------------|-------------|--------------|
| 2010Q1  | 69.9     | 19.7       | 89.6        | 26.3         |
| 2010Q2  | 72.6     | 18.8       | 91.4        | 37.4         |
| 2010Q3  | 72.6     | 18.9       | 91.5        | 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  | 53.5     | 8.7        | 62.1        | 16.7         |





# Emerging Asia Commission (BPS)

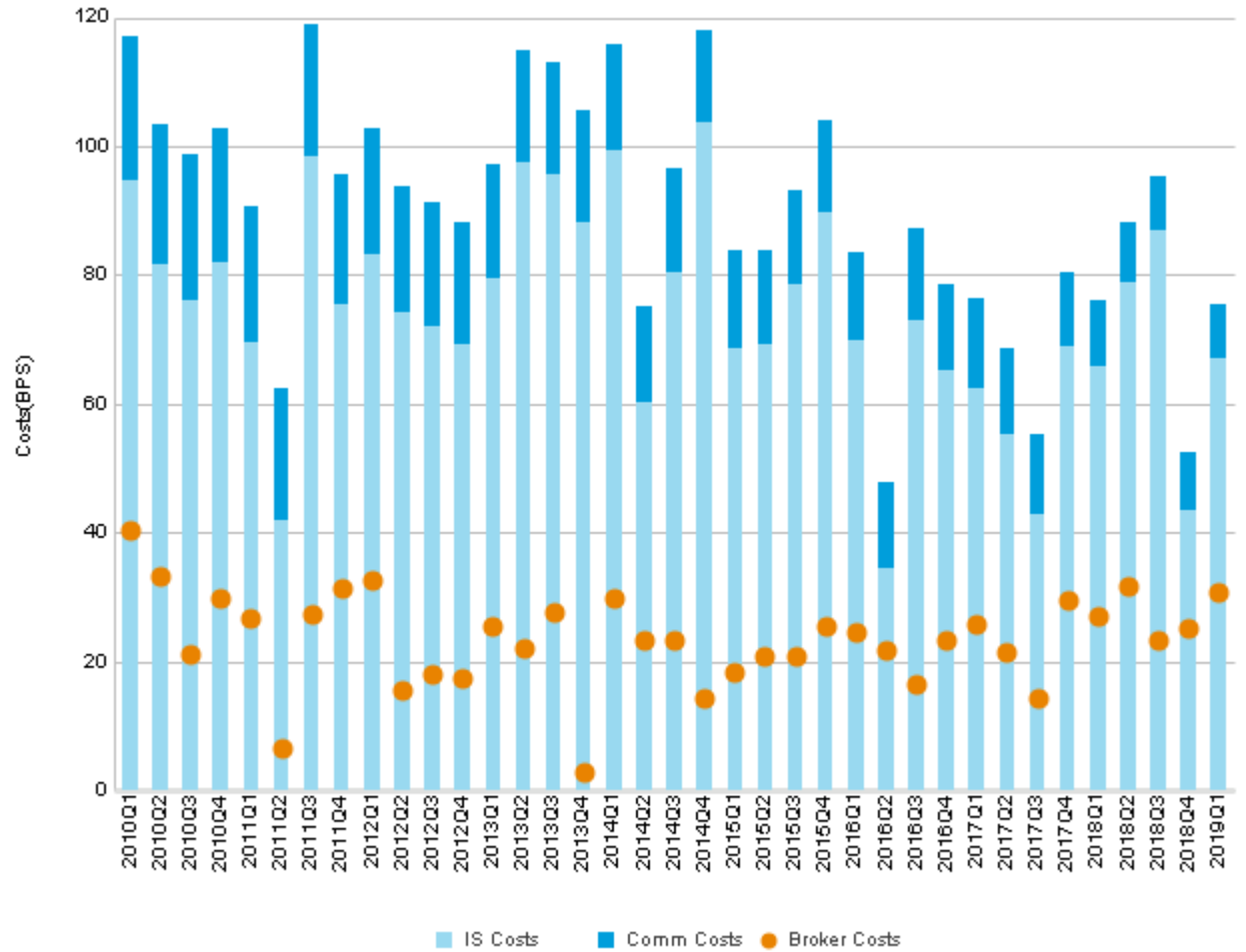
| Commission (BPS) | Traded Value (USD Millions) |
|------------------|-----------------------------|
| (0 , 2)          | 5,955                       |
| (2 , 4)          | 21,586                      |
| (4 , 6)          | 27,497                      |
| (6 , 8)          | 11,773                      |
| (8 , 10)         | 12,570                      |
| (10 , 12)        | 10,265                      |
| (12 , 14)        | 3,982                       |
| (14 , 16)        | 6,397                       |
| (16 , 18)        | 2,020                       |
| (18 , 20)        | 4,767                       |
| (20 , 22)        | 1,846                       |
| (22 , 24)        | 596                         |
| (24 , 26)        | 3,495                       |
| (26 , 28)        | 228                         |
| (28 , 30)        | 574                         |
| (30 , 32)        | 371                         |
| (32 , 34)        | 3                           |
| (34 , 36)        | 80                          |
| (36 , 38)        | <1                          |
| (38 , 40)        | 128                         |
| > 40             | 83                          |
| <b>Total</b>     | <b>114,217</b>              |



| Market Cap   | Avg Commission (BPS) | Traded Value (USD Millions) |
|--------------|----------------------|-----------------------------|
| Micro Cap    | 11.5                 | 475                         |
| Small Cap    | 8.2                  | 1,971                       |
| Mid Cap      | 8.3                  | 28,934                      |
| Large Cap    | 8.8                  | 82,837                      |
| <b>Total</b> | <b>8.7</b>           | <b>114,217</b>              |

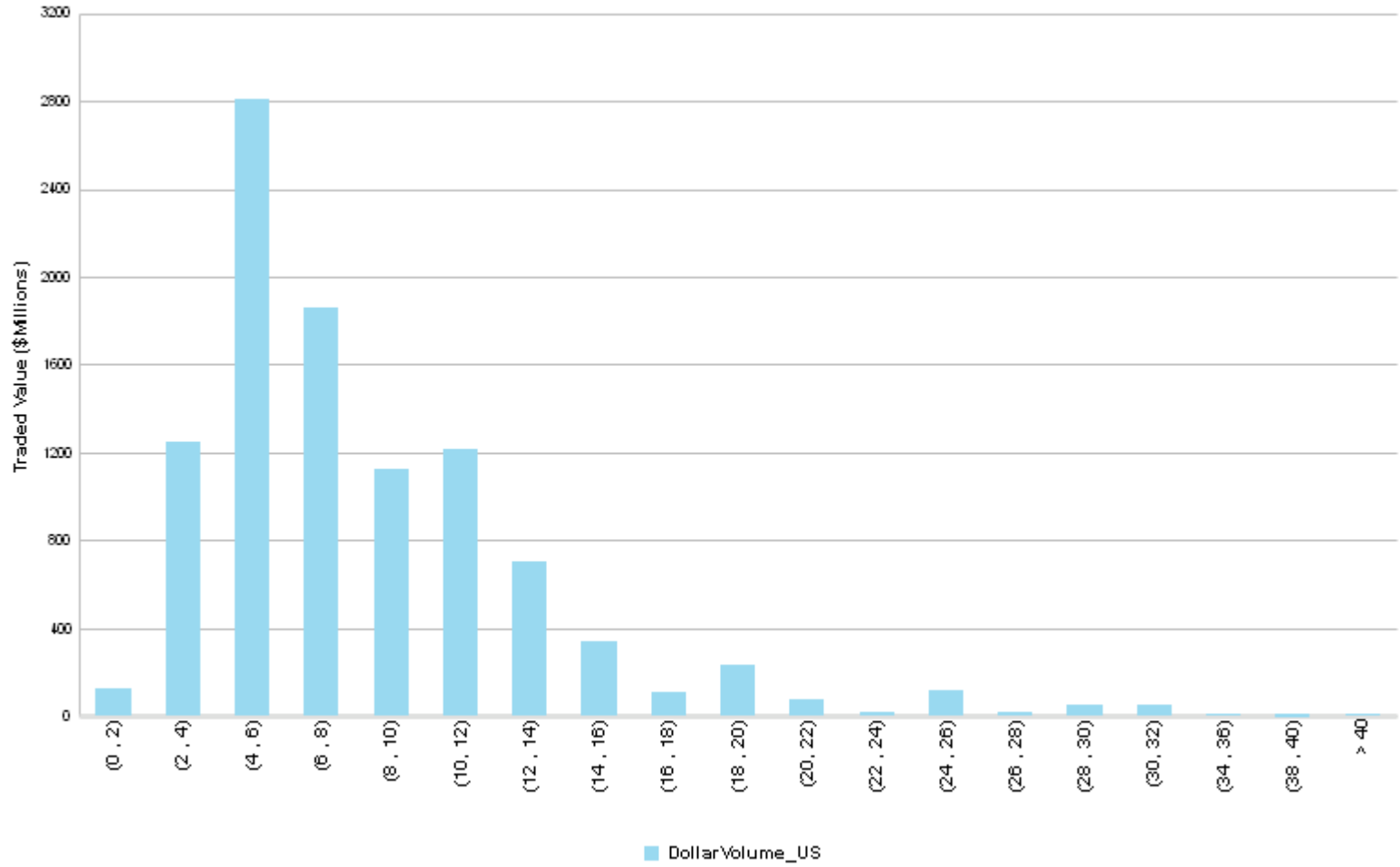
# Emerging Europe (BPS)

| Quarter | IS Costs | Comm Costs | Total Costs | Broker Costs |
|---------|----------|------------|-------------|--------------|
| 2010Q1  | 94.7     | 22.5       | 117.2       | 40.5         |
| 2010Q2  | 81.8     | 21.5       | 103.3       | 33.2         |
| 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  | 67.0     | 8.4        | 75.5        | 30.9         |



# Emerging Europe Commission (BPS)

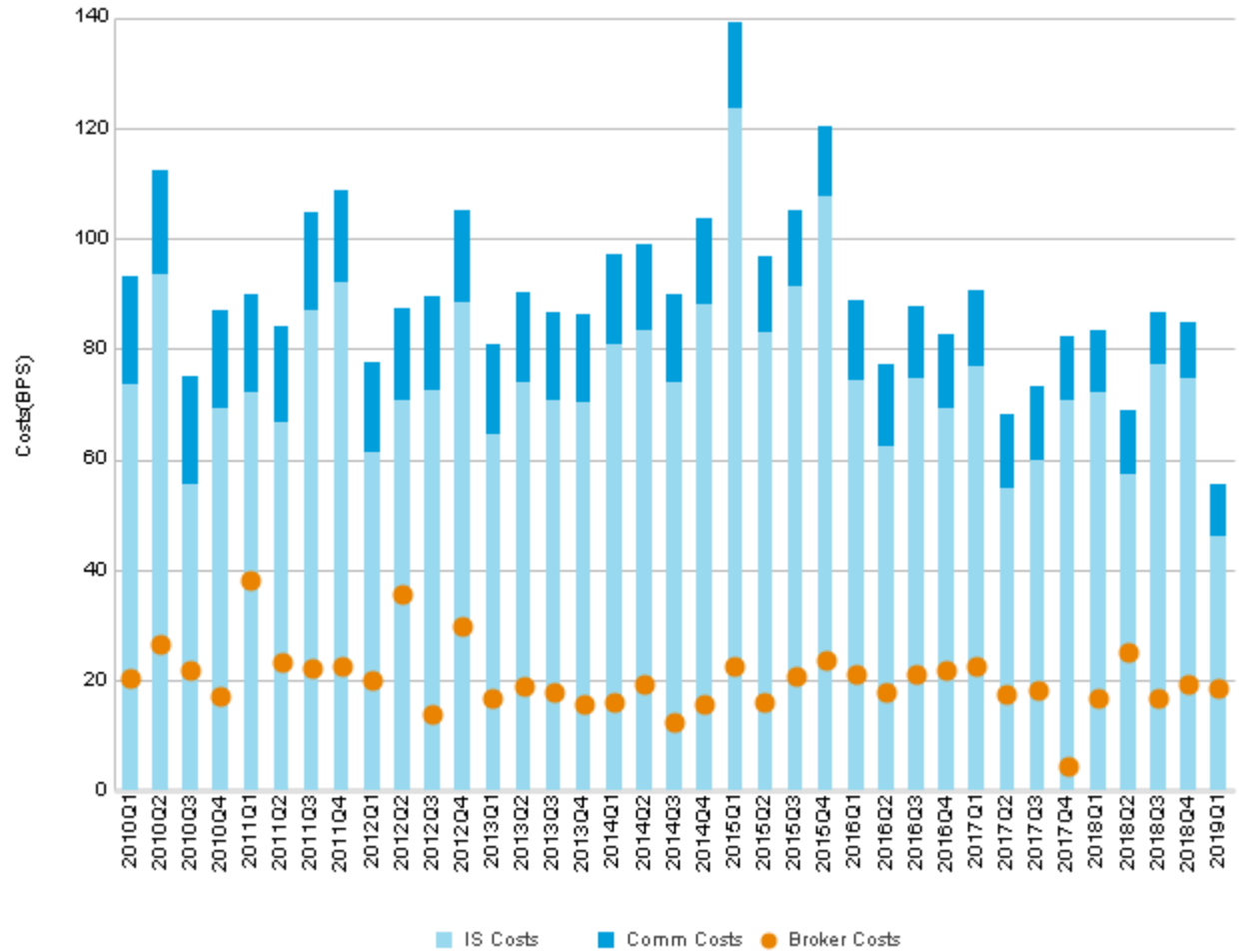
| Commission (BPS) | Traded Value (USD Millions) |
|------------------|-----------------------------|
| (0 , 2)          | 123                         |
| (2 , 4)          | 1,250                       |
| (4 , 6)          | 2,807                       |
| (6 , 8)          | 1,859                       |
| (8 , 10)         | 1,127                       |
| (10 , 12)        | 1,214                       |
| (12 , 14)        | 705                         |
| (14 , 16)        | 343                         |
| (16 , 18)        | 113                         |
| (18 , 20)        | 233                         |
| (20 , 22)        | 72                          |
| (22 , 24)        | 18                          |
| (24 , 26)        | 118                         |
| (26 , 28)        | 16                          |
| (28 , 30)        | 52                          |
| (30 , 32)        | 54                          |
| (34 , 36)        | 9                           |
| (38 , 40)        | 5                           |
| > 40             | 7                           |
| <b>Total</b>     | <b>10,124</b>               |



| Market Cap   | Avg Commission (BPS) | Traded Value (USD Millions) |
|--------------|----------------------|-----------------------------|
| Micro Cap    | 10.2                 | 28                          |
| Small Cap    | 7.4                  | 258                         |
| Mid Cap      | 8.4                  | 3,818                       |
| Large Cap    | 8.5                  | 6,019                       |
| <b>Total</b> | <b>8.4</b>           | <b>10,124</b>               |

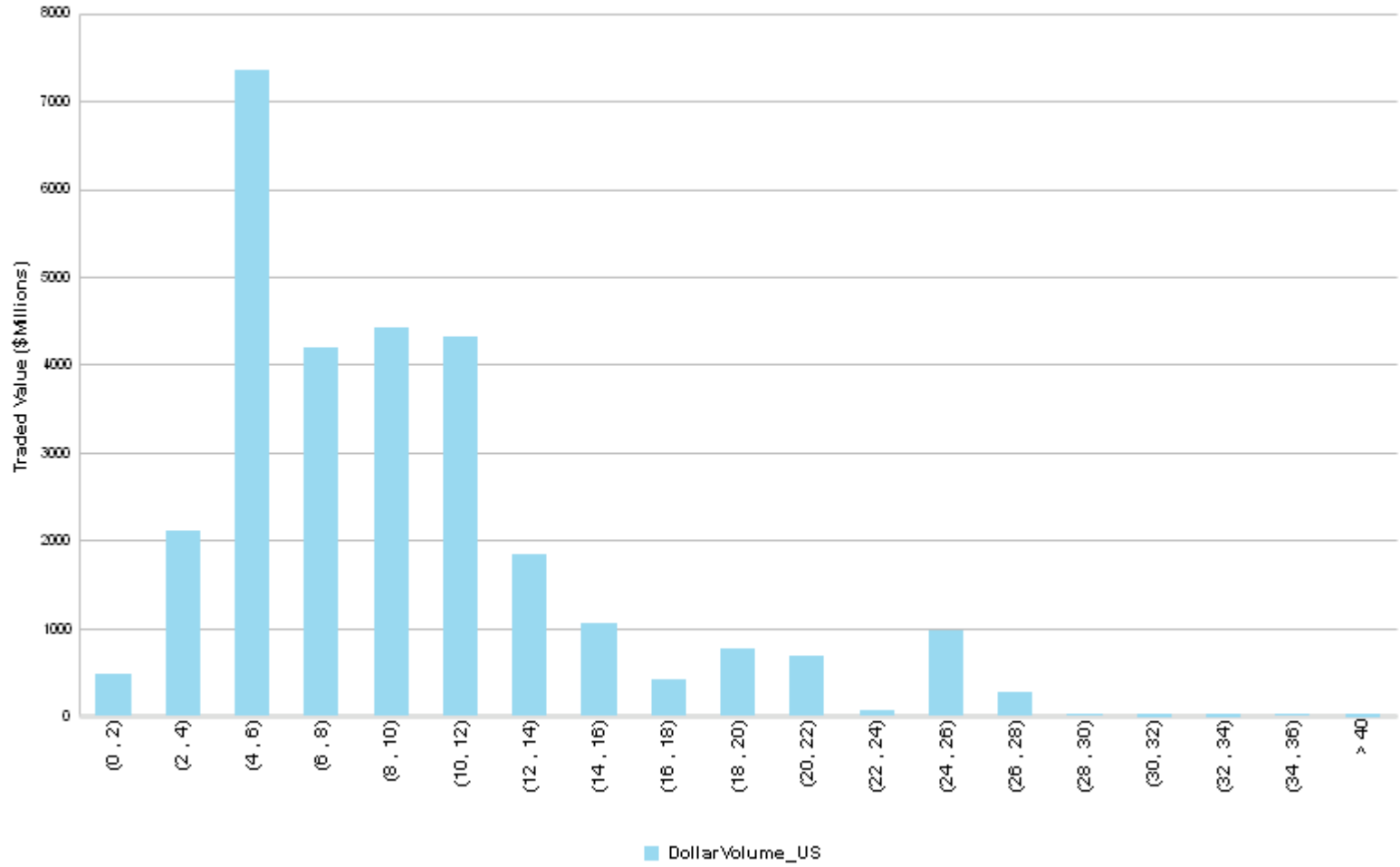
# Latin America (BPS)

| Quarter | IS Costs | Comm Costs | Total Costs | Broker Costs |
|---------|----------|------------|-------------|--------------|
| 2010Q1  | 73.7     | 19.4       | 93.1        | 20.3         |
| 2010Q2  | 93.4     | 18.9       | 112.3       | 26.4         |
| 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  | 46.0     | 9.5        | 55.5        | 18.5         |



# Latin America Commission (BPS)

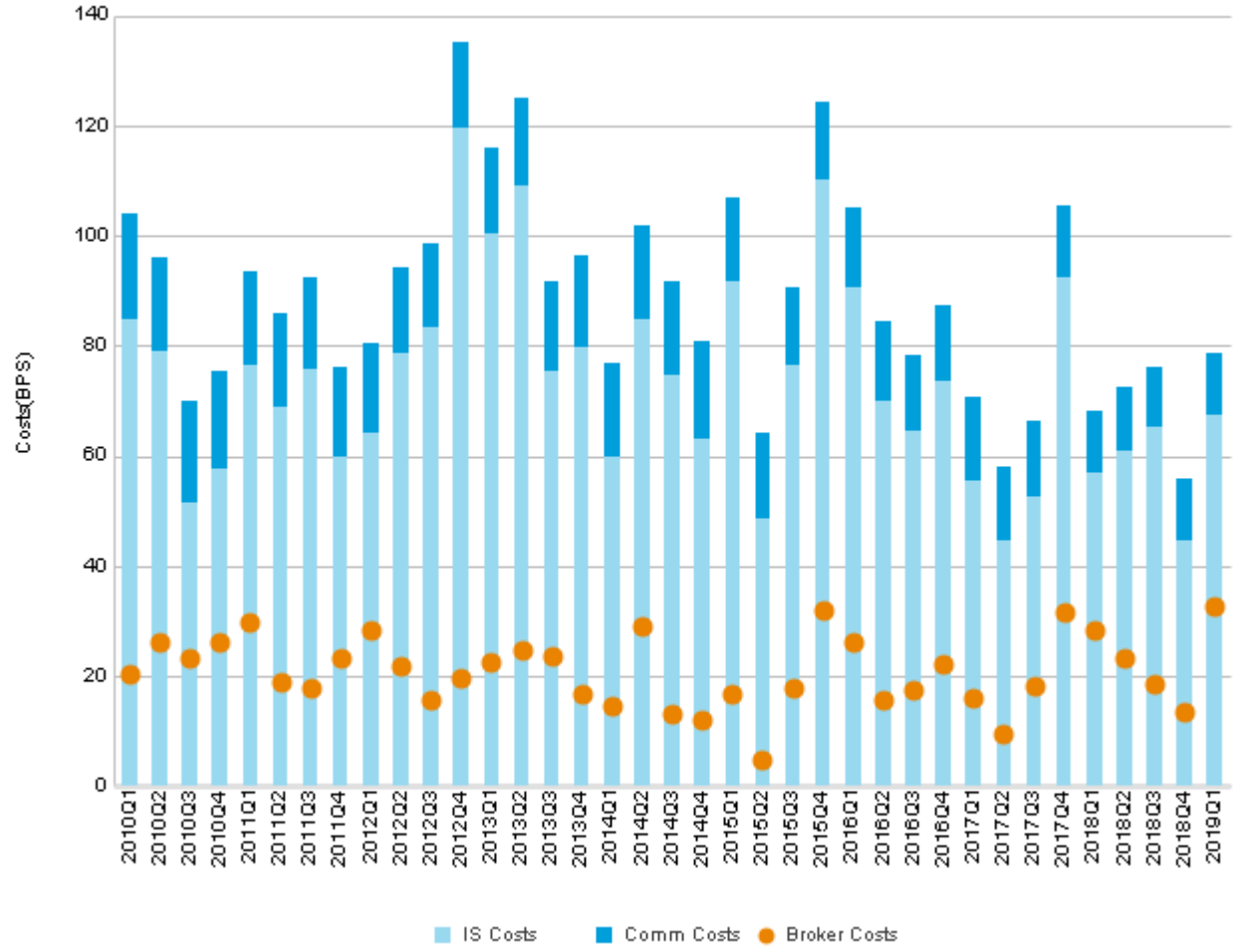
| Commission (BPS) | Traded Value (USD Millions) |
|------------------|-----------------------------|
| (0 , 2)          | 475                         |
| (2 , 4)          | 2,117                       |
| (4 , 6)          | 7,351                       |
| (6 , 8)          | 4,197                       |
| (8 , 10)         | 4,418                       |
| (10 , 12)        | 4,312                       |
| (12 , 14)        | 1,831                       |
| (14 , 16)        | 1,055                       |
| (16 , 18)        | 424                         |
| (18 , 20)        | 761                         |
| (20 , 22)        | 677                         |
| (22 , 24)        | 71                          |
| (24 , 26)        | 970                         |
| (26 , 28)        | 282                         |
| (28 , 30)        | 30                          |
| (30 , 32)        | 14                          |
| (32 , 34)        | <1                          |
| (34 , 36)        | 21                          |
| > 40             | 1                           |
| <b>Total</b>     | <b>29,005</b>               |



| Market Cap   | Avg Commission (BPS) | Traded Value (USD Millions) |
|--------------|----------------------|-----------------------------|
| Micro Cap    | 9.6                  | 7                           |
| Small Cap    | 11.3                 | 172                         |
| Mid Cap      | 9.8                  | 7,986                       |
| Large Cap    | 9.3                  | 20,839                      |
| <b>Total</b> | <b>9.5</b>           | <b>29,005</b>               |

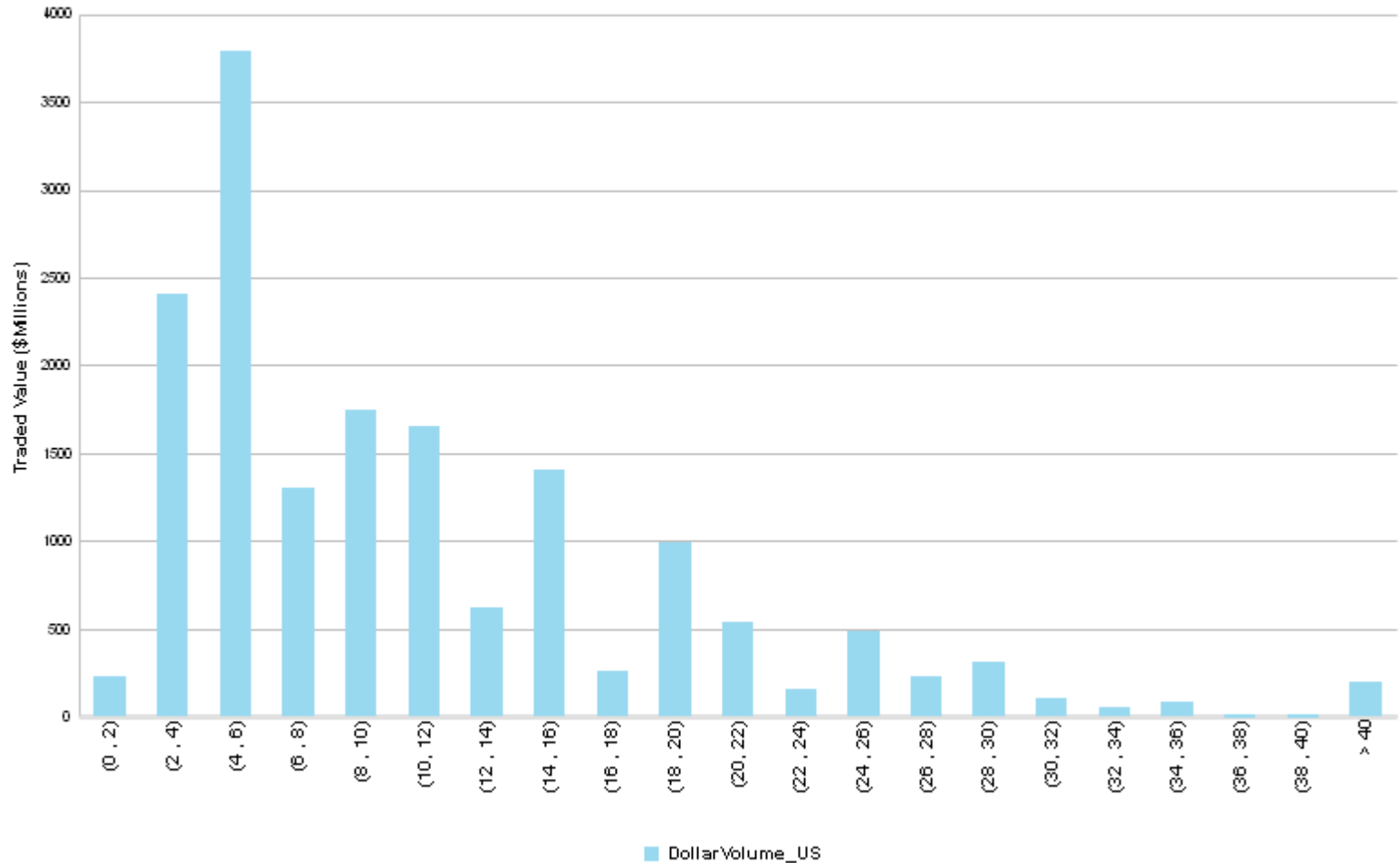
# Africa and Middle East (BPS)

| Quarter | IS Costs | Comm Costs | Total Costs | Broker Costs |
|---------|----------|------------|-------------|--------------|
| 2010Q1  | 84.7     | 19.3       | 104.0       | 20.4         |
| 2010Q2  | 79.0     | 17.2       | 96.2        | 26.1         |
| 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  | 67.5     | 11.1       | 78.6        | 32.6         |



# Africa and Middle East Commission (BPS)

| Commission (BPS) | Traded Value (USD Millions) |
|------------------|-----------------------------|
| (0 , 2)          | 226                         |
| (2 , 4)          | 2,409                       |
| (4 , 6)          | 3,785                       |
| (6 , 8)          | 1,300                       |
| (8 , 10)         | 1,744                       |
| (10 , 12)        | 1,654                       |
| (12 , 14)        | 620                         |
| (14 , 16)        | 1,404                       |
| (16 , 18)        | 263                         |
| (18 , 20)        | 992                         |
| (20 , 22)        | 543                         |
| (22 , 24)        | 153                         |
| (24 , 26)        | 489                         |
| (26 , 28)        | 233                         |
| (28 , 30)        | 307                         |
| (30 , 32)        | 101                         |
| (32 , 34)        | 52                          |
| (34 , 36)        | 84                          |
| (36 , 38)        | 3                           |
| (38 , 40)        | 5                           |
| > 40             | 202                         |
| <b>Total</b>     | <b>16,568</b>               |



| Market Cap   | Avg Commission (BPS) | Traded Value (USD Millions) |
|--------------|----------------------|-----------------------------|
| Micro Cap    | 16.3                 | 24                          |
| Small Cap    | 10.6                 | 180                         |
| Mid Cap      | 11.4                 | 4,745                       |
| Large Cap    | 11.0                 | 11,619                      |
| <b>Total</b> | <b>11.1</b>          | <b>16,568</b>               |

## Appendix

| Region         | Country        |
|----------------|----------------|
| United States  | United States  |
| United Kingdom | United Kingdom |
| Japan          | Japan          |
| Canada         | Canada         |
| Europe ex UK   | Andorra        |
| Europe ex UK   | Austria        |
| Europe ex UK   | Belgium        |
| Europe ex UK   | Cyprus         |
| Europe ex UK   | Denmark        |
| Europe ex UK   | EU Commission  |
| Europe ex UK   | Eurozone       |
| Europe ex UK   | Faeroe Island  |
| Europe ex UK   | Finland        |
| Europe ex UK   | France         |
| Europe ex UK   | Germany        |
| Europe ex UK   | Gibraltar      |
| Europe ex UK   | Greece         |
| Europe ex UK   | Greenland      |
| Europe ex UK   | Guernsey       |
| Europe ex UK   | Iceland        |
| Europe ex UK   | Ireland        |
| Europe ex UK   | Isle Of Mann   |
| Europe ex UK   | Italy          |
| Europe ex UK   | Jersey         |
| Europe ex UK   | Liechtenstein  |
| Europe ex UK   | Luxembourg     |
| Europe ex UK   | Monaco         |
| Europe ex UK   | Netherlands    |
| Europe ex UK   | Norway         |
| Europe ex UK   | Portugal       |

| Region                | Country         |
|-----------------------|-----------------|
| Europe ex UK          | Spain           |
| Europe ex UK          | Sweden          |
| Europe ex UK          | Switzerland     |
| Asia Pacific ex Japan | Australia       |
| Asia Pacific ex Japan | Hong Kong       |
| Asia Pacific ex Japan | New Zealand     |
| Asia Pacific ex Japan | Singapore       |
| Emerging Asia         | Afghanistan     |
| Emerging Asia         | Bangladesh      |
| Emerging Asia         | Bhutan          |
| Emerging Asia         | Brunei          |
| Emerging Asia         | Cambodia        |
| Emerging Asia         | China           |
| Emerging Asia         | Christmas Is.   |
| Emerging Asia         | East Timor      |
| Emerging Asia         | Fiji            |
| Emerging Asia         | French Pacific  |
| Emerging Asia         | Guam            |
| Emerging Asia         | Heard/Macdonld  |
| Emerging Asia         | India           |
| Emerging Asia         | Indonesia       |
| Emerging Asia         | Kazakhstan      |
| Emerging Asia         | Kiribati        |
| Emerging Asia         | Laos            |
| Emerging Asia         | Macau           |
| Emerging Asia         | Malaysia        |
| Emerging Asia         | Maldives        |
| Emerging Asia         | Marshall Island |
| Emerging Asia         | Mongolia        |
| Emerging Asia         | Myanmar         |

| Region          | Country         |
|-----------------|-----------------|
| Emerging Asia   | Nauru Island    |
| Emerging Asia   | Nepal           |
| Emerging Asia   | Norfolk Island  |
| Emerging Asia   | North Korea     |
| Emerging Asia   | Pakistan        |
| Emerging Asia   | Palau           |
| Emerging Asia   | Papua N.Guinea  |
| Emerging Asia   | Philippines     |
| Emerging Asia   | Pitcairn Is.    |
| Emerging Asia   | Samoa           |
| Emerging Asia   | Samoa (West)    |
| Emerging Asia   | Solomon Island  |
| Emerging Asia   | South Korea     |
| Emerging Asia   | Sri Lanka       |
| Emerging Asia   | Taiwan          |
| Emerging Asia   | Thailand        |
| Emerging Asia   | Tokelau         |
| Emerging Asia   | Tonga           |
| Emerging Asia   | Tuvalu          |
| Emerging Asia   | Vanuatu         |
| Emerging Asia   | Vietnam         |
| Emerging Europe | Albania         |
| Emerging Europe | Armenia         |
| Emerging Europe | Belarus         |
| Emerging Europe | Bosnia & Herzeg |
| Emerging Europe | Bouvet Island   |
| Emerging Europe | Bulgaria        |
| Emerging Europe | Croatia         |
| Emerging Europe | Czech           |
| Emerging Europe | Estonia         |



## Appendix

| Region          | Country         |
|-----------------|-----------------|
| Emerging Europe | Georgia         |
| Emerging Europe | Hungary         |
| Emerging Europe | Latvia          |
| Emerging Europe | Lithuania       |
| Emerging Europe | Macedonia       |
| Emerging Europe | Malta           |
| Emerging Europe | Moldova         |
| Emerging Europe | Poland          |
| Emerging Europe | Romania         |
| Emerging Europe | Russia          |
| Emerging Europe | San Marino      |
| Emerging Europe | Serbia          |
| Emerging Europe | Slovakia        |
| Emerging Europe | Slovenia        |
| Emerging Europe | Turkey          |
| Emerging Europe | Ukraine         |
| Emerging Europe | Yugoslavia      |
| Latin America   | Antigua & Barbu |
| Latin America   | Argentina       |
| Latin America   | Aruba           |
| Latin America   | Barbados        |
| Latin America   | Belize          |
| Latin America   | Bolivia         |
| Latin America   | Brazil          |
| Latin America   | British Virgin  |
| Latin America   | Cayman Islands  |
| Latin America   | Chile           |
| Latin America   | Cocos           |
| Latin America   | Columbia        |
| Latin America   | Costa Rica      |
| Latin America   | Cuba            |
| Latin America   | Dominica        |
| Latin America   | Dominican Repub |
| Latin America   | Ecuador         |
| Latin America   | El Salvador     |
| Latin America   | Falkland Is.    |

| Region                 | Country         |
|------------------------|-----------------|
| Latin America          | French Guiana   |
| Latin America          | Grenada         |
| Latin America          | Guadeloupe      |
| Latin America          | Guatemala       |
| Latin America          | Guyana          |
| Latin America          | Haiti           |
| Latin America          | Honduras        |
| Latin America          | Jamaica         |
| Latin America          | Martinique      |
| Latin America          | Mexico          |
| Latin America          | Montserrat      |
| Latin America          | Neth. Antilles  |
| Latin America          | Nicaragua       |
| Latin America          | Panama          |
| Latin America          | Paraguay        |
| Latin America          | Pery            |
| Latin America          | Puerto Rico     |
| Latin America          | St. Kitts & Nev |
| Latin America          | St. Lucia       |
| Latin America          | St. Vincent     |
| Latin America          | Suriname        |
| Latin America          | Trinidad        |
| Latin America          | Turks & Caicos  |
| Latin America          | Uruguay         |
| Latin America          | Venezuela       |
| Latin America          | Virgin Islands  |
| Middle East and Africa | Algeria         |
| Middle East and Africa | Angola          |
| Middle East and Africa | Azerbaijan      |
| Middle East and Africa | Bahrain         |
| Middle East and Africa | Benin           |
| Middle East and Africa | Botswana        |
| Middle East and Africa | Br. Indn Ocean  |
| Middle East and Africa | Burkina Faso    |
| Middle East and Africa | Burundi         |
| Middle East and Africa | Cameron         |

| Region                 | Country         |
|------------------------|-----------------|
| Middle East and Africa | Cape Verde      |
| Middle East and Africa | Central Africa  |
| Middle East and Africa | Chad            |
| Middle East and Africa | Comoros         |
| Middle East and Africa | Congo           |
| Middle East and Africa | Dem. Rep. Congo |
| Middle East and Africa | Djibouti        |
| Middle East and Africa | Egypt           |
| Middle East and Africa | Eritrea         |
| Middle East and Africa | Ethiopia        |
| Middle East and Africa | Gabon           |
| Middle East and Africa | Gambia          |
| Middle East and Africa | Ghana           |
| Middle East and Africa | Guinea          |
| Middle East and Africa | Guinea-Bissau   |
| Middle East and Africa | Iran            |
| Middle East and Africa | Iraq            |
| Middle East and Africa | Israel          |
| Middle East and Africa | Ivory Cost      |
| Middle East and Africa | Jordan          |
| Middle East and Africa | Kenya           |
| Middle East and Africa | Kuwait          |
| Middle East and Africa | Kyrgyzstan      |
| Middle East and Africa | Lebanon         |
| Middle East and Africa | Lesotho         |
| Middle East and Africa | Liberia         |
| Middle East and Africa | Libya           |
| Middle East and Africa | Madagascar      |
| Middle East and Africa | Malawi          |
| Middle East and Africa | Mali Republic   |
| Middle East and Africa | Mauritania      |
| Middle East and Africa | Mauritius       |
| Middle East and Africa | Morocco         |
| Middle East and Africa | Mozambique      |
| Middle East and Africa | Namibia         |
| Middle East and Africa | Niger Republic  |

## Appendix

| <b>Region</b>          | <b>Country</b> |
|------------------------|----------------|
| Middle East and Africa | Nigeria        |
| Middle East and Africa | Oman           |
| Middle East and Africa | Qatar          |
| Middle East and Africa | Reunion        |
| Middle East and Africa | Rwanda         |
| Middle East and Africa | Sao Tome       |
| Middle East and Africa | Saudi Arabia   |
| Middle East and Africa | Senegal        |
| Middle East and Africa | Seychelles     |
| Middle East and Africa | Sierra Leone   |
| Middle East and Africa | Somali         |
| Middle East and Africa | South Africa   |
| Middle East and Africa | Sudan          |
| Middle East and Africa | Swaziland      |
| Middle East and Africa | Syria          |
| Middle East and Africa | Tajikistan     |
| Middle East and Africa | Tanzania       |
| Middle East and Africa | Togo           |
| Middle East and Africa | Tunisia        |
| Middle East and Africa | Turkmenistan   |
| Middle East and Africa | UAE            |
| Middle East and Africa | Uganda         |
| Middle East and Africa | Uzbekistan     |
| Middle East and Africa | Yemen          |
| Middle East and Africa | Zambia         |
| Middle East and Africa | Zimbabwe       |

## Definitions

Traded Value (USD Millions) Principal value of all trades executed, shown in Millions (USD) found in Global Peer database

Trade Value (CAD Millions) Principal value of all trades executed, shown in Millions (CAD) found in Global Peer database

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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