

## Top 5 Venue Execution Report 2018

### Retail clients

#### Equities - Shares & Depositary Receipts

Class of Instrument:	Tick size liquidity bands 5 and 6				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Euronext Amsterdam	65%	55%	61%	39%	0%
Xetra	27%	25%	58%	42%	0%
Euronext Paris	7%	18%	55%	45%	0%
Euronext Brussels	1%	2%	57%	43%	0%

Class of Instrument:	Tick size liquidity bands 3 and 4				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Euronext Amsterdam	47%	29%	59%	41%	0%
Xetra	24%	16%	56%	44%	0%
Euronext Paris	19%	45%	67%	33%	0%
Euronext Brussels	10%	9%	59%	41%	0%
Borse Frankfurt	1%	0%	89%	11%	0%

Class of Instrument:	Tick size liquidity bands 1 and 2				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Euronext Amsterdam	36%	27%	62%	38%	0%
Xetra	27%	21%	62%	38%	0%
Euronext Paris	22%	43%	65%	35%	0%
Borse Frankfurt	7%	4%	90%	10%	0%
Euronext Brussels	7%	5%	70%	30%	0%

#### Debt instruments

Class of Instrument:	Debt instruments				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Euronext Amsterdam	74%	75%	63%	37%	0%
Borse Frankfurt	19%	15%	99%	1%	0%
Euronext Paris	4%	7%	85%	15%	0%
Euronext Lisbon	1.4%	2%	84%	16%	0%
Euronext Brussels	1.3%	1%	62%	38%	0%

#### Interest rates derivatives

Class of Instrument:	Interest rates derivatives				
Notification if <1 average trade per business day in the previous year	Y				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders

#### Credit rates derivatives

Class of Instrument:	Credit rates derivatives				
Notification if <1 average trade per business day in the previous year	Y				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders

#### Currency derivatives

Class of Instrument:	Currency derivatives				
Notification if <1 average trade per business day in the previous year	Y				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders

### Structured finance instruments

Class of Instrument:	Structured finance instruments				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Euronext Amsterdam	86.84%	85%	83%	17%	0%
Euronext Paris	10.84%	13%	70%	30%	0%
Euronext Brussels	2.29%	2%	85%	15%	0%
Euronext Lisbon	0.03%	0%	80%	20%	0%

### Equity Derivatives

Class of Instrument:	Equity Derivatives				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class *	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Euronext NYSE Liffe	81.1%	14%	60%	40%	0%
Eurex	17.7%	86%	73%	27%	0%
Nasdaq Derivatives Markets	1.1%	0%	69%	31%	0%
Borsa Italiana Derivatives	0.2%	0%	61%	39%	0%

\*Based on number of contracts traded

### Securitized Derivatives

Class of Instrument:	Securitized Derivatives				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Borse Frankfurt	94.728%	96%	76%	24%	0%
Euronext Paris	3.947%	3%	69%	31%	0%
Euronext Amsterdam	1.295%	0%	94%	6%	0%
Euronext Lisbon	0.029%	0%	89%	11%	0%
Euronext Brussels	0.001%	0%	61%	39%	0%

#### Commodities derivatives and emission allowances Derivatives

Class of Instrument:	Commodities derivatives and emission allowances Derivatives				
Notification if <1 average trade per business day in the previous year	Y				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders

#### Contracts for difference

Class of Instrument:	Contracts for difference				
Notification if <1 average trade per business day in the previous year	Y				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders

#### Exchange traded products (ETFs, ETNs and ETCs)

Class of Instrument:	Exchange traded products (ETFs, ETNs and ETCs)				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Euronext Amsterdam	49.65%	55%	51%	49%	0%
Xetra	32.12%	27%	50%	50%	0%
Euronext Paris	17.70%	17%	50%	50%	0%
Borse Frankfurt	0.48%	0%	81%	19%	0%
Euronext Lisbon	0.04%	0%	50%	50%	0%

## Professional clients

### Equities - Shares & Depositary Receipts

Class of Instrument:	Tick size liquidity bands 5 and 6				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Euronext Amsterdam	51%	59%	69%	31%	0%
Xetra	30%	23%	42%	58%	0%
Euronext Paris	19%	16%	47%	53%	0%
Euronext Brussels	1%	2%	37%	63%	0%

Class of Instrument:	Tick size liquidity bands 3 and 4				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Euronext Amsterdam	69.5%	60%	57%	43%	0%
Xetra	16.8%	15%	41%	59%	0%
Euronext Paris	8.2%	16%	43%	57%	0%
Euronext Brussels	5.3%	8%	58%	42%	0%
Borse Frankfurt	0.2%	0%	100%	0%	0%

Class of Instrument:	Tick size liquidity bands 1 and 2				
Notification if <1 average trade per business day in the previous year	Y				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Euronext Amsterdam	64%	42%	17%	83%	0%
Xetra	22%	19%	36%	64%	0%
Euronext Paris	12%	28%	35%	65%	0%
Borse Frankfurt	2%	7%	80%	20%	0%
Euronext Brussels	0.3%	3%	50%	50%	0%

#### Debt instruments

Class of Instrument:	Debt instruments				
Notification if <1 average trade per business day in the previous year	Y				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Borse Frankfurt	88%	74%	100%	0%	0%
Euronext Paris	8%	7%	57%	43%	0%
Euronext Amsterdam	4%	19%	56%	44%	0%

#### Interest rates derivatives

Class of Instrument:	Interest rates derivatives				
Notification if <1 average trade per business day in the previous year	Y				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders

#### Credit rates derivatives

Class of Instrument:	Credit rates derivatives				
Notification if <1 average trade per business day in the previous year	Y				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders

#### Currency derivatives

Class of Instrument:	Currency derivatives				
Notification if <1 average trade per business day in the previous year	Y				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders

### Structured finance instruments

Class of Instrument:	Structured finance instruments				
Notification if <1 average trade per business day in the previous year	Y				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Euronext Amsterdam	86.835%	93%	92%	8%	0%
Euronext Paris	10.842%	5%	100%	0%	0%
Euronext Brussels	2.295%	2%	100%	0%	0%
Euronext Lisbon	0.028%				

### Equity Derivatives

Class of Instrument:	Equity Derivatives				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Euronext NYSE Liffe	81.1%	8%	72%	28%	0%
Eurex	17.7%	92%	66%	34%	0%
Nasdaq Derivatives Markets	1.1%	0%	0%	100%	0%
Borsa Italiana Derivatives	0.2%				

### Securitized Derivatives

Class of Instrument:	Securitized Derivatives				
Notification if <1 average trade per business day in the previous year	Y				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Borse Frankfurt	99.9986%	94%	97%	3%	0%
Euronext Paris	0.0011%	4%	0%	100%	0%
Euronext Amsterdam	0.0003%	2%	67%	33%	0%

### Commodities derivatives and emission allowances Derivatives

Class of Instrument:	Commodities derivatives and emission allowances Derivatives				
Notification if <1 average trade per business day in the previous year	Y				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders

Contracts for difference

Class of Instrument:	Contracts for difference				
Notification if <1 average trade per business day in the previous year	Y				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders

Exchange traded products (ETFs, ETNs and ETCs)

Class of Instrument:	(k) Exchange traded products (ETFs, ETNs and ETCs)				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Euronext Amsterdam	62%	54%	44%	56%	0%
Xetra	20%	18%	33%	68%	0%
Euronext Paris	18%	28%	29%	71%	0%
Euronext Lisbon	0%	1%	75%	25%	0%