

Nomura Corporate Research and Asset Management Inc.
Top Five Execution Venues for Classes of Financial Instruments
For the 12 Months Ended December 31, 2018

Class of Instrument	Equities – Shares and Depository Receipts (Liquidity Bands 1 and 2)				
Notification if <1 average trade per business day in the previous year	Not Applicable				
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as a percentage of total in that class	Percentage of Passive Orders	Percentage of Aggressive Orders	Percentage of directed orders
Penserra Securities LLC (LEI - 549300WY8ZBI168Y6Z05)	18.60%	75.00%	0.00%	0.00%	0.00%
Credit Suisse Securities (USA) LLC	5.81%	0.59%	0.00%	0.00%	0.00%
Cowen and Company LLC (LEI - 549300WR155U7DVMIW58)	1.44%	6.48%	0.00%	0.00%	0.00%
Deutsche Bank Securities Inc. (LEI - 9J6MBOOO7BECTDTUZW19)	0.20%	0.03%	0.00%	0.00%	0.00%
Merrill Lynch, Pierce, Fenner & Smith Incorporated (LEI - 8NAV47T0Y26Q87Y0QP81)	0.16%	0.54%	0.00%	0.00%	0.00%

Class of Instrument	Equities – Shares and Depository Receipts (Liquidity Bands 5 and 6)				
Notification if <1 average trade per business day in the previous year	Not Applicable				
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as a percentage of total in that class	Percentage of Passive Orders	Percentage of Aggressive Orders	Percentage of directed orders
Penserra Securities LLC (LEI - 549300WY8ZBI168Y6Z05)	0.00%	0.06%	0.00%	0.00%	0.00%

Class of Instrument	Equities – Other (Private)				
Notification if <1 average trade per business day in the previous year	Not Applicable				
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as a percentage of total in that class	Percentage of Passive Orders	Percentage of Aggressive Orders	Percentage of directed orders
Barclays Capital Inc. (LEI - AC28XWWI3WIBK2824319)	21.52%	3.37%	0.00%	0.00%	0.00%
Goldman Sachs & Co. LLC (LEI - FOR8UP27PHTHYVLBN30)	8.40%	1.78%	0.00%	0.00%	0.00%
Merrill Lynch, Pierce, Fenner & Smith Incorporated (LEI - 8NAV47T0Y26Q87Y0QP81)	6.65%	2.35%	0.00%	0.00%	0.00%
Deutsche Bank Securities Inc. (LEI - 9J6MBOOO7BECTDTUZW19)	5.64%	0.68%	0.00%	0.00%	0.00%
J.P. Morgan Securities LLC (LEI - ZBUT11V806EZRVTWT807)	5.09%	0.59%	0.00%	0.00%	0.00%

Class of Instrument	Debt Instruments - Bonds		
Notification if <1 average trade per business day in the previous year	Not Applicable		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as a percentage of total in that class	Percentage of directed orders
Merrill Lynch, Pierce, Fenner & Smith Inc. (LEI: 8NAV47T0Y26Q87Y0QP81))	11.37%	11.27%	0.00%
J.P. Morgan Securities LLC (LEI: ZBUT11V806EZRVTWT807)	11.34%	10.26%	0.00%
Goldman Sachs & Co. LLC (LEI - FOR8UP27PHTHYVLBN30)	9.73%	10.41%	0.00%
Citigroup Global Markets Inc. (LEI - MBNUM2BPBDO7JBLYG310)	8.17%	7.63%	0.00%
Morgan Stanley & Co. LLC (LEI - 9R7GPTSO7KV3UQJZQ078)	8.14%	9.85%	0.00%

Class of Instrument	Currency Derivatives – Swaps, Forwards, and Other Currency Derivatives		
Notification if <1 average trade per business day in the previous year	Not Applicable		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as a percentage of total in that class	Percentage of directed orders
The Bank of New York Mellon (LEI - HPFHU00Q28E4N0NFVK49)	68.57%	30.85%	0.00%
State Street Bank and Trust Company (LEI - 571474TGEMMWANRLN572)	18.47%	39.53%	0.00%
UBS AG (LEI - L5B73Z7Y846FLWTQMU88)	8.12%	12.64%	0.00%
JPMChase New York (LEI - 5493004W3CC8HBNL9W83)	4.35%	13.58%	0.00%
Cooperatieve Rabobank U.A. (LEI - DG3RU1DBUFHT4ZF9WN62)	0.49%	3.40%	0.00%

Class of Instrument	Exchange Traded Products (Exchange Traded Funds, Exchange Traded Notes and Exchange Traded Commodities)				
Notification if <1 average trade per business day in the previous year	The firm averaged <1 trade per business day in the previous year				
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as a percentage of total in that class	Percentage of Passive Orders	Percentage of Aggressive Orders	Percentage of directed orders
Merrill Lynch, Pierce, Fenner & Smith Inc. (LEI: 8NAV47T0Y26Q87Y0QP81))	57.99%	55.56%	0.00%	0.00%	0.00%
J.P. Morgan Securities LLC (LEI: ZBUT11V806EZRVWTWT807)	42.01%	44.44%	0.00%	0.00%	0.00%

Class of Instrument	Other Instruments (Loans)		
Notification if <1 average trade per business day in the previous year	Not Applicable		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as a percentage of total in that class	Percentage of directed orders
JPMorgan Chase Bank, National Association (LEI - 7H6GLXDRUGQFU57RNE97)	16.71%	14.12%	0.00%
Barclays Bank PLC (LEI - G5GSEF7VJP5I7OUK5573)	15.23%	15.53%	0.00%
Bank of America, National Association (LEI - B4TYDEB6GKMZO031MB27)	13.77%	15.15%	0.00%
Morgan Stanley Senior Funding, Inc. (LEI - XRR2REEVVJS58CENNG14)	11.24%	9.35%	0.00%
Goldman Sachs Bank USA (LEI - KD3XUN7C6T14HNAYLU02)	8.30%	9.76%	0.00%