

Top five execution venues

Class of Instrument	Equities - Shares & Depository Receipts				
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
Tradegate Exchange - Freiverkehr (MIC: XGAT)	40,4%	48,7%	0,0%	0,0%	63,3%
Xetra - Regulierter Markt (MIC: XETA)	27,3%	22,3%	44,7%	49,5%	98,9%
Boerse Duesseldorf - Quotrix (MIC: XQTV)	13,1%	11,3%	0,0%	0,0%	5,5%
Boerse Stuttgart - Freiverkehr (MIC: STUB)	7,8%	2,9%	0,0%	0,0%	53,1%
Xetra - Freiverkehr (MIC: XETB)	4,1%	4,6%	37,8%	53,6%	99,5%

Class of Instrument	Debt instruments Bonds				
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
Boerse Stuttgart - Freiverkehr (MIC: STUB)	32,4%	41,8%	0,0%	0,0%	84,6%
Bloomberg Trading Facility Limited (MIC: BMTF)	28,1%	1,3%	0,0%	0,0%	0,0%
Boerse Frankfurt - Freiverkehr (MIC: FRAB)	13,9%	9,8%	0,0%	0,0%	97,5%
Boerse Duesseldorf - Freiverkehr (MIC: DUSB)	12,9%	2,5%	0,0%	0,0%	100,0%
Boerse Duesseldorf - Quotrix MTF (MIC: DUSD)	8,2%	26,7%	0,0%	0,0%	9,4%

Class of Instrument	Debt instruments Money markets 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

Class of Instrument	Interest rates derivatives Futures and options admitted to trading on a trading venue				
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
Eurex Deutschland (MIC: XEUR)	100,0%	100,0%	18,8%	81,2%	100,0%

Class of Instrument	Interest rates derivatives Swaps, forwards, and other interest rates derivatives				
Notification if < 1 average trade per business day in the previous year	Y				

Top five investment firms

Class of Instrument	Equities - Shares & Depository Receipts				
Notification if < 1 average trade per business day in the previous year	Y				
Top five investment firms 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
ICF Bank AG (LEI: 529900E89HA1145HB613)	86,5%	55,1%	0,0%	0,0%	91,6%
Virtu Financial Ireland Limited (LEI: 549300XG5LFGN1IGYC71)	7,0%	32,5%	0,0%	0,0%	14,9%
UBS Limited (LEI: REYPIEJN7XZHSUI0N355)	2,3%	1,1%	0,0%	0,0%	27,9%
Société Générale SA (LEI: O2RNE8IBXP4R0TD8PU41)	1,8%	1,3%	0,0%	0,0%	0,0%
KCG Europe Limited (LEI: 549300346EFUPFCXJT79)	1,8%	10,0%	0,0%	0,0%	27,8%

Class of Instrument	Debt instruments Bonds				
Notification if < 1 average trade per business day in the previous year	Y				
Top five investment firms 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
Société Générale S.A. (LEI: O2RNE8IBXP4R0TD8PU41)	18,5%	9,3%	0,0%	0,0%	0,0%
HSBC TRINKAUS & BURKHARDT AG (LEI: JUNT405OW8OY5GN4DX16)	14,6%	4,3%	0,0%	0,0%	0,0%
Barclays Bank PLC (LEI: G5GSEF7VJPSI7OUK5573)	12,9%	3,2%	0,0%	0,0%	1,0%
Citibank, National Association (LEI: E57ODZWZ7FF32WEFA76)	11,8%	3,0%	0,0%	0,0%	0,0%
BNP Paribas S.A. (LEI: R0MUWSFP08MPRO8K5P83)	11,5%	3,9%	0,0%	0,0%	0,0%

Class of Instrument	Debt instruments Money markets instruments				
Notification if < 1 average trade per business day in the previous year	Y				
Top five investment firms 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

Class of Instrument	Interest rates derivatives Futures and options admitted to trading on a trading venue				
Notification if < 1 average trade per business day in the previous year	Y				
Top five investment firms 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
UBS AG (LEI: BFM8T61CT2L1QCCEMIK50)	100,0%	100,0%	0,0%	0,0%	100,0%

Class of Instrument	Interest rates derivatives Swaps, forwards, and other interest rates derivatives				
Notification if < 1 average trade per business day in the previous year	Y				

Top five execution venues

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
DZ BANK AG Deutsche Zentral-Genossenschaftsbank (MIC: DZBK)	100,0%	100,0%	0,0%	0,0%	100,0%

Top five investment firms

Top five investment firms 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

Top five execution venues

Class of Instrument	Credit derivatives Futures and options admitted to trading on a trading venue				
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

Class of Instrument	Credit derivatives Other credit 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
DZ BANK AG Deutsche Zentral-Genossenschaftsbank (MIC: DZBK)	100,0%	100,0%	0,0%	0,0%	100,0%

Class of Instrument	Currency derivatives Futures and options admitted to trading on a trading venue				
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

Class of Instrument	Currency derivatives Swaps, forwards, and other 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
DZ BANK AG Deutsche Zentral-Genossenschaftsbank (MIC: DZBK)	100,0%	100,0%	0,0%	0,0%	100,0%

Class of Instrument	Structured finance instruments
Notification if < 1 average trade per business day in the previous year	Y

Top five investment firms

Class of Instrument	Credit derivatives Futures and options admitted to trading on a trading venue				
Notification if < 1 average trade per business day in the previous year	Y				
Top five investment firms 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

Class of Instrument	Credit derivatives Other credit derivatives				
Notification if < 1 average trade per business day in the previous year	Y				
Top five investment firms 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

Class of Instrument	Currency derivatives Futures and options admitted to trading on a trading venue				
Notification if < 1 average trade per business day in the previous year	Y				
Top five investment firms 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
UBS AG (LEI: BFM8T61CT2L1QCCEMIK50)	100,0%	100,0%	0,0%	0,0%	100,0%

Class of Instrument	Currency derivatives Swaps, forwards, and other currency derivatives				
Notification if < 1 average trade per business day in the previous year	Y				
Top five investment firms 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

Class of Instrument	Structured finance instruments
Notification if < 1 average trade per business day in the previous year	Y

Top five execution venues

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
Bloomberg Trading Facility Limited (MIC: BMTF)	50,4%	10,4%	0,0%	0,0%	0,0%
Boerse Stuttgart - Freiverkehr (MIC: STUB)	33,2%	51,8%	0,0%	0,0%	71,4%
Boerse Frankfurt - Freiverkehr (MIC: FRAB)	14,6%	23,2%	0,0%	0,0%	27,6%
Boerse Duesseldorf - Quotrix MTF (MIC: DUSD)	0,9%	6,0%	0,0%	0,0%	10,6%
Boerse Frankfurt - Regulierter Markt (MIC: FRAA)	0,2%	1,2%	0,0%	0,0%	13,6%

Class of Instrument	Equity derivatives Options and futures admitted to trading on a trading venue				
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
Eurex Deutschland (MIC: XEUR)	100,0%	100,0%	82,6%	16,8%	100,0%

Top five investment firms

Top five investment firms 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
Deutsche Bank AG (LEI: 7LTFWZYICNSX8D621K86)	96,0%	5,3%	0,0%	0,0%	0,0%
DekaBank Deutsche Girozentrale (LEI: 0W2PZJM8XOY22M4GG883)	3,8%	15,8%	0,0%	0,0%	0,0%
Intesa Sanpaolo Bank Luxembourg S.A. (LEI: 549300H62SNDRT0PS319)	0,2%	42,1%	0,0%	0,0%	100,0%
ICF Bank AG (LEI: 529900E89HA1145HB613)	0,0%	36,8%	0,0%	0,0%	100,0%

Class of Instrument	Equity derivatives Options and futures admitted to trading on a trading venue				
Notification if < 1 average trade per business day in the previous year	Y				
Top five investment firms 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
UBS AG (LEI: BFM8T61CT2L1QCCEMIK50)	100,0%	100,0%	0,0%	0,0%	100,0%

Top five execution venues

Class of Instrument	Equity derivatives Swaps and other equity 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

Class of Instrument	Securitized Derivatives Warrants and Certificate 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
Boerse Stuttgart - Freiverkehr (MIC: STUB)	77,6%	57,2%	0,0%	0,0%	32,4%
Boerse Frankfurt - Freiverkehr (MIC: FRAB)	20,8%	39,3%	0,0%	0,0%	83,0%
Xetra - Regulierter Markt (MIC: XETA)	0,4%	1,3%	21,1%	75,2%	81,6%
Boerse Duesseldorf - Quotrix MTF (MIC: DUSD)	0,4%	1,2%	0,0%	0,0%	3,2%
Boerse Hamburg - Regulierter Markt (MIC: HAMA)	0,3%	0,0%	0,0%	0,0%	25,3%

Class of Instrument	Securitized Derivatives Other 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

Class of Instrument	Commodities derivatives and emission allowances derivatives Options and futures admitted to trading on a trading venue				
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

Class of Instrument	Commodities derivatives and emission allowances derivatives Other commodities derivatives and emission allowances derivatives				
Notification if < 1 average trade per business day in the previous year	Y				

Top five investment firms

Class of Instrument	Equity derivatives Swaps and other equity derivatives				
Notification if < 1 average trade per business day in the previous year	Y				
Top five investment firms 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

Class of Instrument	Securitized Derivatives Warrants and Certificate Derivatives				
Notification if < 1 average trade per business day in the previous year	Y				
Top five investment firms 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
Société Générale S.A. (LEI: O2RNE8IBXP4R0TD8PU41)	30,7%	11,0%	0,0%	0,0%	0,0%
UniCredit Bank AG (LEI: 2ZCNRR8UK83OBTEK2170)	22,9%	8,5%	0,0%	0,0%	9,7%
DekaBank Deutsche Girozentrale (LEI: 0W2PZJM8XOY22M4GG883)	18,8%	7,6%	0,0%	0,0%	2,4%
Bank Vontobel AG (LEI: 549300LV4MGECYRM576)	11,4%	21,3%	0,0%	0,0%	0,0%
BNP Paribas Emissions- und Handelges (LEI: 549300TS3U4JKMR1B479)	7,3%	10,5%	0,0%	0,0%	0,8%

Class of Instrument	Securitized Derivatives Other securitized derivatives				
Notification if < 1 average trade per business day in the previous year	Y				
Top five investment firms 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

Class of Instrument	Commodities derivatives and emission allowances derivatives Options and futures admitted to trading on a trading venue				
Notification if < 1 average trade per business day in the previous year	Y				
Top five investment firms 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

Class of Instrument	Commodities derivatives and emission allowances derivatives Other commodities derivatives and emission allowances derivatives				
Notification if < 1 average trade per business day in the previous year	Y				

Top five execution venues

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

Top five investment firms

Top five investment firms 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

Top five execution venues

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

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	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
Xetra - Regulierter Markt (MIC: XETA)	53,2%	35,8%	34,7%	61,6%	73,9%
Boerse Duesseldorf - Quotrix MTF (MIC: DUSD)	30,3%	35,0%	0,0%	0,0%	1,7%
Tradegate Exchange - Freiverkehr (MIC: XGAT)	8,6%	16,9%	0,0%	0,0%	98,5%
Boerse Stuttgart - Freiverkehr (MIC: STUB)	4,2%	4,8%	0,0%	0,0%	98,9%
Boerse Frankfurt - Regulierter Markt (MIC: FRAA)	1,6%	3,9%	0,0%	0,0%	85,6%

Class of Instrument	Emission allowances				
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

Class of Instrument	Other instruments
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Top five investment firms

Class of Instrument	Contracts for difference				
Notification if < 1 average trade per business day in the previous year	Y				
Top five investment firms 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

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	Y				
Top five investment firms 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
ICF Bank AG (LEI: 529900E89HA1145HB613)	42,6%	4,9%	0,0%	0,0%	98,0%
Commerzbank AG (LEI: 851WYGNLUQLFZBSYGB56)	28,5%	54,6%	0,0%	0,0%	63,5%
Flow Traders, Amsterdam (LEI: 549300CLJ9XDH12XV51)	10,1%	17,5%	0,0%	0,0%	40,4%
UBS Europe SE (LEI: 5299007QVIQ7IO64NX37)	7,9%	0,1%	0,0%	0,0%	99,9%
Jane Street Financial Ltd., London (LEI: 549300ZHEHX8M31RP142)	5,8%	12,2%	0,0%	0,0%	33,5%

Class of Instrument	Emission allowances				
Notification if < 1 average trade per business day in the previous year	Y				
Top five investment firms 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

Class of Instrument	Other instruments
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