



## ECC CPMI-IOSCO Disclosure IV/2022

Index	disclosure item	date, type, value	
<b>4.</b>	<b>4000</b>	<b>Credit Risk (Principle 4)</b>	
4.1	Total value of default resources (excluding initial and retained variation margin), split by clearing service if default funds are segregated by clearing service	As at quarter end Mn. EURO (Bonds at collateral value)	
4101	a) pre-funded	3,485.7	
4103	i. own capital that forms part of the default waterfall (used before member contributions)	35.0	
4102	ii. aggregate participant contributions	3,372.2	
4108	(aggregate participant contributions requirement, to be covered on the next business day)	(2553.1)	
	iii. other	78.5	
4104	b) committed	3,451.2	
4105	i. own/parent funds that are committed to address a participant default	35.0	
4106	ii. aggregate participant commitments to address an initial participant default	1,708.1	
4107	iii. aggregate participant commitments to replenish the default fund to deal with a subsequent participant default (see [1])	1,708.1	
	iv. other	0.0	
4.2	4201	Hypothetical Capital/ $K_{CCP}$ (SA-CCR for derivatives based; Euro)	80,656.8
4.3	Value of pre-funded default resources (excluding initial and retained variation margin)	As at quarter end Mn. EURO	
4301	a) total Cash	3,160.0	
4302	i. deposited at a central bank of issue of the currency	[2]	
4303	ii. Cash deposited at other central banks	[2]	
4304	iii. Secured cash at commercial banks (including reverse repo)	[2]	
4305	iv. Unsecured cash deposited at commercial banks	[2]	
	b) Bonds at market value w/o haircut		
4306	i. Agency	0.9	
4307	ii. Sovereign Government Bonds - domestic	0.0	
4308	iii. Sovereign Government Bonds - foreign	203.0	
4309	iv. State / Provincial / Municipal - domestic	7.8	
4310	v. State / Provincial / Municipal - foreign	0.0	
4311	vi. Supranational Agency	19.3	
4312	vii. other Bonds	1.6	
	c) Bonds at collateral value (post haircut)		
4313	i. Agency	0.8	
4314	ii. Sovereign Government Bonds - domestic	0.0	
4315	iii. Sovereign Government Bonds - foreign	184.4	
4316	iv. State / Provincial / Municipal - domestic	7.5	
4317	v. State / Provincial / Municipal - foreign	0.0	
4318	vi. Supranational Agency	18.3	
4319	vii. other Bonds	1.1	
	d) other	[3]	
4.4	a) State whether the CCP is subject to a minimum "Cover 1" or "Cover 2" requirement in relation to total pre-funded default resources	As at quarter end Cover 2	
4401			
4402	b) assumed close out period (days)	2	
	c) the estimated largest aggregate stress loss (in excess of initial margin) that would be caused by the default of any single participant and its affiliates (including transactions cleared for indirect participants) in extreme but plausible market conditions?	previous 12 months Mn. EURO	
4403	i. maximum of daily values	3,011.1	
4404	ii. average over daily values	1,319.5	
4405	iii. number of days where stress loss exceeded DFW	0	
4406	iv. amount of excess of stress loss over DFW, day 1	n/a	
4407	amount of excess of stress loss over DFW, day 2	n/a	
4408	amount of excess of stress loss over DFW, day 3	n/a	
4408	amount of excess of stress loss over DFW, day 3	n/a	

4409	amount of excess of stress loss over DFW, day 4	n/a
4410	amount of excess of stress loss over DFW, day 5	n/a
4411	amount of excess of stress loss over DFW, day 6	n/a
4412	amount of excess of stress loss over DFW, day 7	n/a
4413	amount of excess of stress loss over DFW, day 8	n/a
4414	amount of excess of stress loss over DFW, day 9	n/a
4415	amount of excess of stress loss over DFW, day 10	n/a
	d) what was the actual largest aggregate credit exposure (in excess of initial margin) to any single participants and their affiliates	Mn. EURO [4]
4416	i. maximum of daily values	n/a
4417	ii. average over daily values	n/a
	e) the estimated largest aggregate stress loss (in excess of initial margin) that would be caused by the default of any two participant and its affiliates (including transactions cleared for indirect participants) in extreme but plausible market conditions?	previous 12 months Mn. EURO
4418	i. maximum of daily values	3,137.8
4419	ii. average over daily values	1,741.8
4420	iii. number of days where stress loss exceeded DFW	0
4421	iv. amount of excess of stress loss over DFW, day 1	n/a
4422	amount of excess of stress loss over DFW, day 2	n/a
4423	amount of excess of stress loss over DFW, day 3	n/a
4424	amount of excess of stress loss over DFW, day 4	n/a
4425	amount of excess of stress loss over DFW, day 5	n/a
4426	amount of excess of stress loss over DFW, day 6	n/a
4427	amount of excess of stress loss over DFW, day 7	n/a
4428	amount of excess of stress loss over DFW, day 8	n/a
4429	amount of excess of stress loss over DFW, day 9	n/a
4430	amount of excess of stress loss over DFW, day 10	n/a
	f) what was the actual largest aggregate credit exposure (in excess of initial margin) to any two participants and their affiliates	[4]
4431	i. maximum of daily values	0.0
4432	ii. average over daily values	0.0
<b>5.</b>	<b>5000 Collateral (Principle 5)</b>	
5.1	5101 Assets eligible as initial margin, and the respective haircuts applied <a href="http://www.ecc.de/ecc-en/risk-management/collateral-management/overview">http://www.ecc.de/ecc-en/risk-management/collateral-management/overview</a>	
5.2	5201 Assets eligible for pre-funded participant contributions to the default resources, and the respective haircuts applied <a href="http://www.ecc.de/ecc-en/risk-management/collateral-management/overview">http://www.ecc.de/ecc-en/risk-management/collateral-management/overview</a>	
5.3	Collateral Backtesting	previous 12 months
	5301 i. confidence interval targeted for haircuts	99,9
	5302 ii. assumed holding/liquidation period for the assets	3
	5303 iii. look-back period	255
	5304 iv. number of days during look-back where fall in value exceeded haircuts	0
<b>6.</b>	<b>6000 Margin (Principle 6)</b>	
	<i>Initial Margin</i>	
6.1	Initial Margin Requirement by type of segregation	As at quarter end Mn. EURO
	6101 a) House	389.2
	6102 b) non-segregated	0.0
	6103 c) segregated clients [5]	27,338.7
	6104 Initial Margin Requirement for indirect participants: gross or net?	Gross
6.2	Initial margin received by type of segregation	As at quarter end Mn. EURO
	a) House	[6]
	Cash	
	6201 total Cash	1,304.1
	6202 deposited at a central bank of issue of the currency	[2]
	6203 Cash deposited at other central banks	[2]
	6204 Secured cash at commercial banks (including reverse repo)	[2]
	6205 Unsecured cash deposited at commercial banks	[2]
	Bonds (market value - w/o haircuts)	

6206	Sovereign Government Bonds - domestic	0.0
6207	Sovereign Government Bonds - foreign	125.7
6208	Agency	0.0
6209	Supranational Agency	3.1
6210	State / Provincial / Municipal - domestic	67.0
6211	State / Provincial / Municipal - foreign	11.6
6212	other Bonds	96.9
	Bonds (collateral value - post haircuts)	
6213	Sovereign Government Bonds - domestic	0.0
6214	Sovereign Government Bonds - foreign	114.3
6215	Agency	0.0
6216	Supranational Agency	2.8
6217	State / Provincial / Municipal - domestic	63.9
6218	State / Provincial / Municipal - foreign	7.8
6219	other Bonds	89.2
	b) non-segregated	
	Cash	
6220	total Cash	0.0
6221	deposited at a central bank of issue of the currency	[2]
6222	Cash deposited at other central banks	[2]
6223	Secured cash at commercial banks (including reverse repo)	[2]
6224	Unsecured cash deposited at commercial banks	[2]
	Bonds (market value - w/o haircuts)	
6225	Sovereign Government Bonds - domestic	0.0
6226	Sovereign Government Bonds - foreign	0.0
6227	Agency	0.0
6228	Supranational Agency	0.0
6229	State / Provincial / Municipal - domestic	0.0
6230	State / Provincial / Municipal -foreign	0.0
6231	other Bonds	0.0
	Bonds (collateral value - post haircuts)	0.0
6232	Sovereign Government Bonds - domestic	0.0
6233	Sovereign Government Bonds - foreign	0.0
6234	Agency	0.0
6235	Supranational Agency	0.0
6236	State / Provincial / Municipal - domestic	0.0
6237	State / Provincial / Municipal - foreign	0.0
6238	other Bonds	0.0
	c) segregated clients [5]	
	Cash	[6]
6239	total Cash	30,285.9
6240	deposited at a central bank of issue of the currency	[2]
6241	Cash deposited at other central banks	[2]
6242	Secured cash at commercial banks (including reverse repo)	[2]
6243	Unsecured cash deposited at commercial banks	[2]
	Bonds (market value - w/o haircuts)	
6244	Sovereign Government Bonds - domestic	0.0
6245	Sovereign Government Bonds - foreign	1,356.9
6246	Agency	26.9
6247	Supranational Agency	31.7
6248	State / Provincial / Municipal - domestic	696.9
6249	State / Provincial / Municipal - foreign	120.6
6250	other Bonds	128.7
	Bonds (collateral value - post haircuts)	0.0
6251	Sovereign Government Bonds - domestic	0.0
6252	Sovereign Government Bonds - foreign	1,234.5
6253	Agency	22.8
6254	Supranational Agency	28.7
6255	State / Provincial / Municipal - domestic	664.0
6256	State / Provincial / Municipal - foreign	80.7
6257	other Bonds	121.9
6.3	6301 Initial margin rates on individual contracts, where the CCP sets such rates	[7]

6.4	Type of initial margin model used and key model design parameters	
6401	Single Tail Confidence Level	99,0
6402	Look Back Period	1 Year (250 Trading Days)
6403	Weighting on historical data	Exponential Weighting with Lambda = 0.99
6404	Close Out Periods	2 days
6405	Rates and Credits	
6406	Update Frequency	<a href="http://www.ecc.de/ecc-en/risk-management/reports_and_files">http://www.ecc.de/ecc-en/risk-management/reports_and_files</a> Daily
6.5	Results of back-testing of initial margin (daily basis) Reported are the aggregate results counting outliers of IM calculation at the level of each Non-Clearing Member at ECC.	prev. 12 months
6501	a) Number of days where IM fell below mark-to-market	20
6502	b) Number of observations where IM fell below mark-to-market	110
6503	c) Achieved coverage level	99.8%
6504	d) Specify if measured intraday/continuously or only once a day.	continuously
6505	e) If once a day, specify at what time of day.	n/a
6506	f) i. breaches of initial margin: peak uncovered exposure	Mn. EURO 702.4
6507	ii. breaches of initial margin: average uncovered exposure [8]	33.0

**Margin Calls**

6.6	Average total variation margin paid to the CCP by participants each business day.	Average over quarter; Mn. EURO 549.8
6.7	Maximum total variation margin paid to the CCP on any given business day over the period.	Maximum over quarter; Mn. EURO 1,401.2
6.8	Maximum aggregate initial margin call on any given business day over the period.	Maximum over quarter; Mn. EURO 3,944.9

**7. Liquidity Risk (Principle 7)**

7.1	7101 State whether the clearing service maintains sufficient liquid resources to 'Cover 1' Size and composition of qualifying liquid resources for each clearing service, for each relevant currency	Cover 2  Mn. EURO
	a) Cash deposited at a central bank of issue of the currency concerned	As at quarter end
7102	i. EUR	34,216.4
7109	ii. GBP	0.0
7128	iii. JPY	0.0
7135	iv. NOK	0.0
7116	v. USD	0.0
	b) Cash deposited at other central banks	As at quarter end
7103	i. EUR	0.0
7110	ii. GBP	0.0
7129	iii. JPY	0.0
7136	iv. NOK	0.0
7117	v. USD	0.0
	c) Secured cash deposited at commercial banks (including reverse repo)	As at quarter end
7104	i. EUR	0.0
7111	ii. GBP	0.0
7130	iii. JPY	0.0
7137	iv. NOK	0.0
7118	v. USD	0.0
	d) Unsecured cash deposited at commercial banks	
7105	i. EUR	2.5
7112	ii. GBP	42.9
7131	iii. JPY	0.1
7138	iv. NOK	54.3
7119	v. USD	0.6
7142	vi. PLN	0.0
	e) secured committed lines of credit including committed foreign exchange swaps and committed repos	As at quarter end

	7106	i. EUR	0.0
	7113	ii. GBP	0.0
	7132	iii. JPY	0.0
	7139	iv. NOK	0.0
	7120	v. USD	0.0
		f) unsecured committed lines of credit which the CCP may draw without providing collateral/security	As at quarter end
	7107	i. EUR	140.0
	7114	ii. GBP	0.0
	7133	iii. JPY	0.0
	7140	iv. NOK	0.0
	7121	v. USD	0.0
		g) highly marketable collateral held in custody and investments that are readily available and convertible into cash with prearranged and highly reliable funding arrangements even in extreme but plausible market conditions	As at quarter end
			[9]
	7108	i. EUR	237.6
	7115	ii. GBP	0.0
	7134	iii. JPY	0.0
	7141	iv. NOK	0.0
	7122	v. USD	0.0
		h) other	
		i. EUR	0.0
		ii. GBP	0.0
		iii. JPY	0.0
		iv. NOK	0.0
		v. USD	0.0
		i) State whether the CCP has routine access to central bank liquidity or facilities.	As at quarter end
	7123	i. EUR	Yes - Intraday facility
	7124	ii. GBP	No
	7126	iii. JPY	No
	7127	iv. NOK	No
	7125	v. USD	No
7.2	7201	Supplementary Liquidity over those from 7.1	n/a
7.3		Largest same-day payment obligation in total that would be caused by the default of any single participant and its affiliates in extreme but plausible market conditions?	previous quarter Mn. EURO
	7301	i. maximum estimated amount	18,919.7
	7302	ii. number of days where estimated payment exceeded liquidity	0
		iii. amount of excess on each day:	
	7303	amount of excess of payment over liq., day 1	n/a
	7304	amount of excess of payment over liq., day 2	n/a
	7305	amount of excess of payment over liq., day 3	n/a
	7306	amount of excess of payment over liq., day 4	n/a
	7307	amount of excess of payment over liq., day 5	n/a
	7308	amount of excess of payment over liq., day 6	n/a
	7309	amount of excess of payment over liq., day 7	n/a
	7310	amount of excess of payment over liq., day 8	n/a
	7311	amount of excess of payment over liq., day 9	n/a
	7312	amount of excess of payment over liq., day 10	n/a
	7313	iv. actual largest payment obligation to a single participant over the past 12 months	n/a
<b>12. Exchange of Value Settlement Systems (Principle 12)</b>			
12.1	12101	Percentage of settlements by value effected using a DvP, DvD or PVP settlement	n/a
12.2	12201	Percentage of settlements by volume effected using a DvP, DvD or PVP settlement mechanism	n/a
<b>13 Default Rules and Procedures (Principle 13)</b>			
13.1		Quantitative information related to past defaults	
	13101	a) amount of loss vs. amount of margin	n/a
	13102	b) amount of other financial resources used to cover losses	n/a

	13103	c) proportion of client positions closed-out/ported	n/a
<b>14. Segregation and Portability (Principle 14)</b>			
14.1		Total client positions (Open Interest) as a share of notional values, by type of segregation	[6]
		a) basis: OI short side	
	14101	i. HOUSE	< 5%
	14102	ii. ISA	8%
	14103	iii. LSOC/GOS	87%
	14104	iv. SOS	< 5%
		b) basis: OI long side	
	14105	i. HOUSE	< 5%
	14106	ii. ISA	9%
	14107	iii. LSOC/GOS	85%
	14108	iv. SOS	< 5%
<b>15. General Business Risk (Principle 15)</b>			
			Mn. EURO
15.1	15101	a) value of liquid net assets funded by equity (EMIR capital)	158.0
	15102	b) six months of current operating expenses	33.6
15.2		Financial disclosures	[10]
	15201	a) total revenue	201.6
	15202	b) total expenditure	131.8
	15203	c) profits	69.7
	15204	d) total assets	47,598.3
	15205	e) total liabilities	47,598.3
	15206	f) Explain if collateral posted by clearing participants is held on or off the CCP's balance sheet	n/a
15.3		Income breakdowns	
	15301	a) percentage of income from clearing fees	100%
	15302	b) percentage of income from reinvestment of assets provided by clearing participants	0%
<b>16. Custody and Investment Risks (Principle 16)</b>			
			As at quarter end
			Mn. EURO
16.1	16101	Total Cash received by the CCP from participants	34,748.7
	16102	Total Cash received by the CCP from participants: Default Fund contributions	3,160.0
	16103	Total Cash received by the CCP from participants: Initial Margins	31,588.7
16.2		Investment of Cash: Deposits	
	16201	a) deposits at central banks of issue of the currency	100%
	16202	b) deposits at other central banks	0%
	16203	c) secured deposits at commercial banks	0%
	16204	d) unsecured deposits at commercial banks	0%
	16205	e) money market funds	0%
	16206	f) other	0%
	16207	g) Cash - EUR	100%
	16208	h) Cash - GBP	0%
	16209	i) Cash - USD	0%
	16210	j) weighted average maturity of deposits and funds (days)	< 1
		Investment of Cash: Securities	
	16211	a) domestic sovereign government bonds	0%
	16212	b) foreign sovereign government bonds	0%
	16213	c) agency bonds	0%
	16214	d) state/ provincial / municipal bonds	0%
	16215	e) other instruments	0%
	16216	f) percentage split by currency	0%
	16217	g) percentage split by currency	0%
	16218	h) percentage split by currency	0%
	16219	i) weighted average maturity of these securities	0
		Investment of Cash: Investment Risk	
	16220	VaR(99%) of total investment portfolio	n/a
	16221	Limit for Investment Counterparty	individual limits, see [11]

	16222	Number of investment limit breaches (see [11])	0
16.3	16301	Investment of Cash: Rehypothecation of Cash (ECC does not use the instrument of rehypothecation of cash for investment)	no
<b>17. Operational Risk (Principle 17)</b>			
17.1	17101	Operational availability targets for the core systems involved in clearing	99%
17.2	17201	Achieved availability of the core systems, previous twelve months	>99%
17.3	17301	Total number of failures affecting the core systems, previous twelve months	n/a
	17302	Total duration of failures affecting the core systems, previous twelve months	n/a
17.4	17401	Recovery time objectives (in hours)	2
<b>18. Access and Participation Requirements (Principle 18)</b>			
18.1		Number of clearing members by type and origin	as at quarter end
	18101	a) DCM domestic	1
	18102	b) DCM foreign	3
	18103	c) GCM domestic	5
	18104	d) GCM foreign	21
	18105	e) DCP domestic	23
	18106	f) DCP foreign	61
18.2		Percentage of OI held by Top5 CM: daily average over quarter	
	18201	a) basis: long side	89%
	18202	b) basis: short side	90%
		Percentage of OI held by Top5 CM: peak EoD over quarter	
	18203	c) basis: long side	91%
	18204	d) basis: short side	92%
18.3		Percentage of IM posted by Top5 CMs	
	18301	a) peak EoD over quarter	87%
	18302	b) daily average over quarter	85%
18.4	18401	Percentage of Top5 CM contributions to CF	78%
<b>19. Tiered Participation Arrangements (Principle 19)</b>			
19.1		Measures of concentration of client clearing	
	19101	a) Number of known clients	621
	19102	b) Number of CM clearing for clients	26
	19103	c) Client OI attributable to Top5 CM	94%
	19104	d) Client OI attributable to Top5 CM	94%

### Comments and Explanations

- [1] According to the Clearing Conditions, ECC may request the non-defaulting Clearing Members to replenish their default fund contributions within 10 days after a Clearing Member has been set into default and the default fund has been fully or partially utilized. The amount reported here as replenishment assumes the default of the largest Clearing Member. It is calculated as the total Default Fund Contributions of all Clearing Members less the contribution of the largest Clearingmember.
- [2] ECC maintains cash collateral provided in EURO for initial margin requirements and the default fund contributions at first at its TARGET2 account. ECC does not separate its holdings of cash and cash investments between default fund contributions and margin contributions.
- [3] According to ECC's collateral policy, ECC does not accept "other types" of collateral for the default fund.  
See also <https://www.ecc.de/ecc-en/risk-management/collateral-management>
- [4] ECC does not invest funds with the top five Clearingmembers (according to initial margin requirement) or its affiliates. Therefore, the credit exposures with clients and participants are determined by the clearing service, but not influenced by other creditor relationships to the Clearing Members.
- [5] Under the term "Segregated Clients", ISA, OSA and SOS segregated accounts are comprised.
- [6] Values are provided in ranges for data protection reasons.
- [7] All margin calculations are based on a general modelling approach either for derivatives or for spot products. The statistical models and all relevant changes to them are part of a regulatory oversight process. They are based on conservative assumptions which are validated once a year by external parties. Information concerning the margining approach can be found under:  
<https://www.ecc.de/ecc-en/risk-management/margining>
- [8] Days without uncovered exposure are not included in the calculation of the average value.
- [9] Based on ECC's obligation to maintain liquidity for the default of the largest two Clearing Members, reported here are highly secure and liquid securities provided by all Clearing Members as contribution to the Clearing Funds as well as securities provided by the top two Clearing Members as collateral for their initial margin requirement.
- [10] Values taken from the latest audited annual financial statement. See also  
<https://www.ecc.de/ecc-en/about-ecc/company/reports>
- [11] ECC sets individual limits for investment counterparties with regard to types of investment as well as overall limits for the individual counterparty and the counterparties group. These limits are based on an internal risk assessment using different external data sources including external rating agencies. Information refers to group external investment counterparties.