

PUBLIC QUANTITATIVE DISCLOSURE

NEWSLETTER

Q4 / 2018



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SECTION 1 - INTRODUCTION

The Global Association of Central Counterparties (CCP12) publishes the Public Quantitative Disclosure (PQD) Newsletter to present a panorama of the CCP industry to market participants, relevant authorities and the broader public. The analysis is based on PQD reports published by central counterparties (CCPs) globally under the Principles for Financial Market Infrastructures (PFMI) requirements set by Committee on Payments and Market Infrastructures and the International Organization of Securities Commissions (CPMI-IOSCO). For a full list of the CCPs whose PQD information was used in this report, please see Appendix 1.

CCP12 is a global association of 35 members who operate more than 50 individual CCPs across the Europe/Middle East/Africa (EMEA), Americas, and Asia-Pacific (APAC) regions. CCP12 aims to promote effective, practical and appropriate risk management and operational standards for CCPs to ensure the safety and efficiency of the financial markets it represents. CCP12 leads and assesses global regulatory and industry initiatives that concern CCPs to form consensus views, while also actively engaging with regulatory agencies and industry constituents through consultation responses, forum discussions and position papers.

In 2015, the CPMI-IOSCO published PQD standards for CCPs¹ as an important component of the set of PFMI public disclosure requirements, while also encouraging CCPs to use a common PQD submission template. CCP12 supports CPMI-IOSCO's efforts to improve the level of standardization and transparency of the CCP industry; our members collaboratively worked to create a common PQD template in 2015, and officially released the CCP12 PQD Template in 2017².

¹ CPMI-IOSCO (2015). Public quantitative disclosure standards for central counterparties. [online] Available from: < <https://www.bis.org/cpmi/publ/d125.htm> >

² CCP12 PQD Template: <https://ccp12.org/the-ccp12-template-for-public-quantitative-disclosures-for-ccps-3/>

In this PQD Newsletter, the Q3 and Q4 2018 PQD data sets published by CCP12 members are grouped both by the region in which the CCP is located, as well as by the underlying asset classes cleared by the CCP. A number of CCP risk management indicators are examined, including Initial Margin Required, Default Fund Required, Collateral Make-Up of the Initial Margin and Default Fund contributions, and Average Daily Variation Margin. All indicators are measured in US dollar (USD).

Updates to the PQD Newsletter

- ICE Energy Exchange (ICE NGX) and the National Stock Exchange of India Clearing Limited (NSE Clearing) have been added to the PQD data pool; the PQDs for both the previous quarter (Q3 2018) and the relevant quarter (Q4 2018) were added to minimize any resulting jumps in both the quarterly and respective regional splits
- The Q4 2018 data for the Dubai Commodities Clearing Corporation (DCCC) has also been added; the Q3 2018 data was not available
- ICE Clear Canada (ICCA) transferred all clearing services to ICE Clear US (ICUS) at the end of July 2018, and has therefore been removed from the data pool
- The Q4 2018 PQDs were not yet available for KRX and SHCH, meaning the Q3 2018 data was reused, updated with the Q4 2018 currency exchange rates
- This newsletter is the first to feature year on year (YoY) PQD comparisons, although CCPs who had not yet joined the data pool in Q4 2017 were excluded from these comparisons for balance. These include B3, ICE NGX, MGEX, NSE, and the DCCC

SECTION 2 – PQD KEY INDICATORS

2.1 INITIAL MARGIN

2.1.1 INITIAL MARGIN REQUIRED TOTAL

Initial margin (IM) is the collateral required by the CCP to cover potential changes in the value of each participant's position (that is, potential future exposure) over the appropriate closeout period in the event the participant defaults (CPMI-IOSCO, 2012)³.

In the CCP12 PQD data set, the required initial margin at the end of Q4 2018 totaled USD 702.46 billion, of which 45,2% came from the Americas (USD 317.27 billion); 45,1% was from EMEA (USD 316.68 billion), while CCPs in the APAC region accounted for 9,8% (USD 68.50 billion).

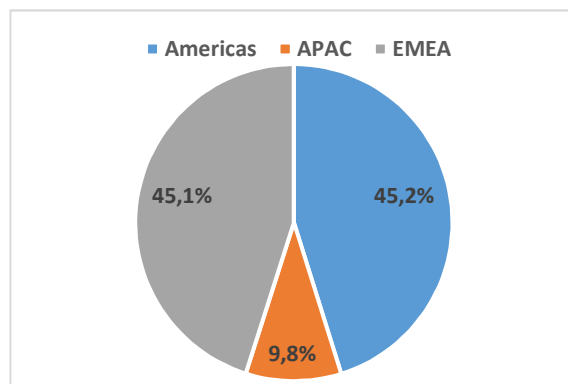


Chart 1a:

Initial Margin Required Total – Q4 2018

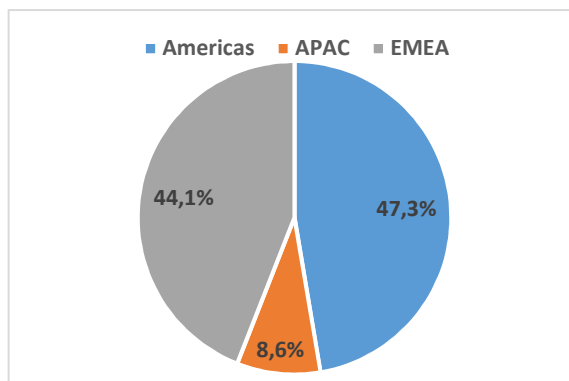


Chart 1b:

Initial Margin Required Total – Q3 2018

Compared with the data from Q3 2018, the required initial margin within the three regions increased and the global total grew by USD 22.26 billion overall, whereas this occurred mainly in the EMEA and APAC region.

³ CPSS-IOSCO (2012). *Principles for financial market infrastructures*. [online] Available from: <https://www.bis.org/cpmi/publ/d_101.htm>

The global total required initial margin from Q4 2017 totaled USD 588.13 billion, of which 51,3% was from EMEA (USD 301.89 billion); 40,4% came from the Americas (USD 237.68 billion), while CCPs in the APAC region accounted for 8,3% (USD 48.57 billion).

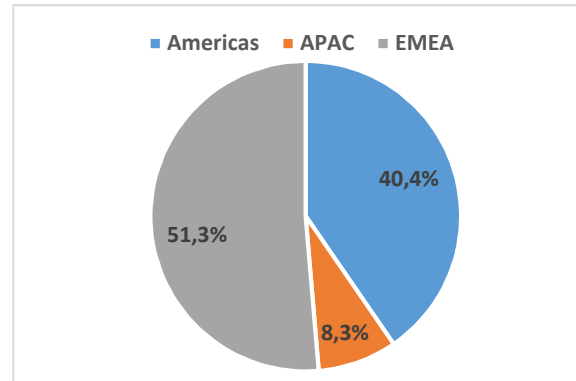


Chart 1c:

Initial Margin Required Total – Q4 2017

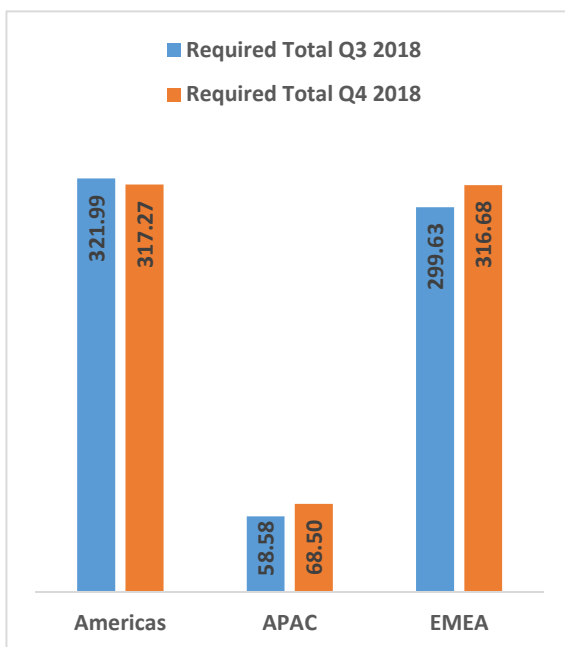


Chart 2a:

Initial Margin Required Total in USD billion – Q3 2018 vs. Q4 2018⁴

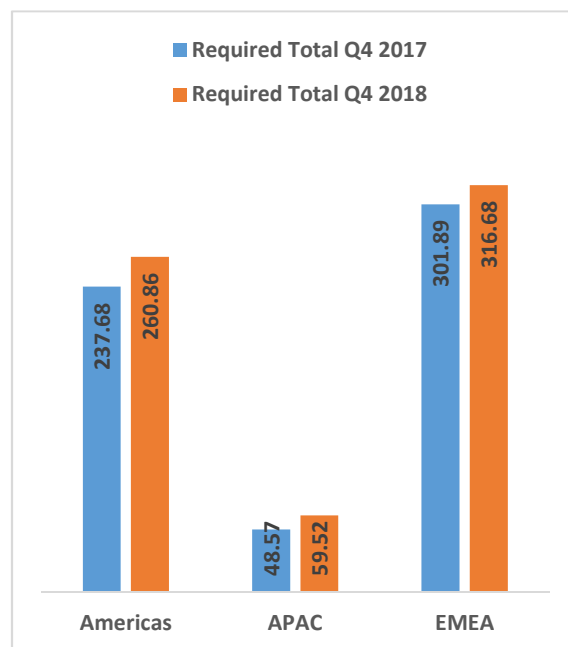


Chart 2b:

Initial Margin Required Total in USD billion – Q4 2017 vs. Q4 2018⁴

⁴ Deviation originates from exclusion of certain CCPs in YoY comparison in order to balance the comparison

In contrast to a geographical split, the initial margin can also be broken down by asset class. 30,2% (USD 212.27 billion) of the required initial margin is used to cover a Multi Asset class (Diversified/Other), where the initial margin encompasses multiple asset classes across the various CCP clearing services. Interest Rate Derivatives (IRD) come in second at 24,8% (USD 174.53 billion), followed by IM for Equity Derivatives at 19,7% (USD 138.63 billion). Next in order are Bonds and Repo (11,4%; USD 80.05 billion), Credit Default Swaps (CDS) (6,4%; USD 44.65 billion), Shares and Equities (3,9%; USD 27.69 billion), Foreign Exchange (FX) (2,1%; 15.04 billion), and Agriculture and Commodities (1,4%; USD 9.60 billion).

In comparison to the Q3 2018 figures the main increases occurred in the asset classes CDS (+10,6%), IRD (+7,05%) and Multi Asset (+6,26%). Compared however to the Q4 2017 figures, the main increases occurred in the asset classes FX (+125,87%) and CDS (+27,25%). A decrease of -14,13% in the asset class AG and Commodities is also important to note.

Asset Class	Q3 2018	Q4 2018	+ / -	Q4 2017	Q4 2018	+ / -
Bonds and Repo	76.17	80.05	5,10%	72.89	80.05	9,82%
Shares and Equities	28.60	27.69	-3,18%	27.21	27.38	0,59%
CDS	40.37	44.65	10,60%	35.09	44.65	27,25%
Ag and Commodities	9.76	9.60	-1,66%	10.25	8.80	-14,13%
IRD	163.03	174.53	7,05%	159.72	174.53	9,27%
Equity Derivatives	146.09	138.63	-5,11%	135.61	138.63	2,22%
FX	14.75	15.04	1,93%	6.66	15.04	125,87%
Multi Asset	199.76	212.27	6,26%	135.58	147.99	9,15%

Chart 3:

Asset Class Split Total Required Initial Margin in USD billion
Q3 2018 vs. Q4 2018⁵ & Q4 2017 vs. Q4 2018⁵

⁵ Deviation originates from exclusion of certain CCPs in YoY comparison in order to balance the comparison

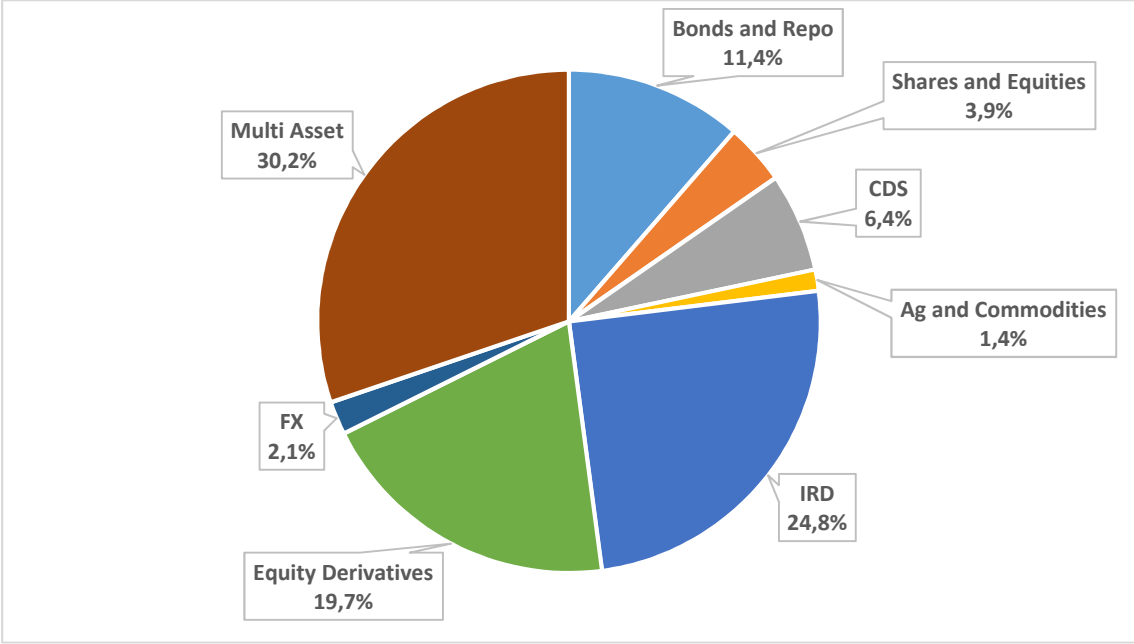


Chart 4a:

Asset Class Split of Total Required Initial Margin – Q4 2018

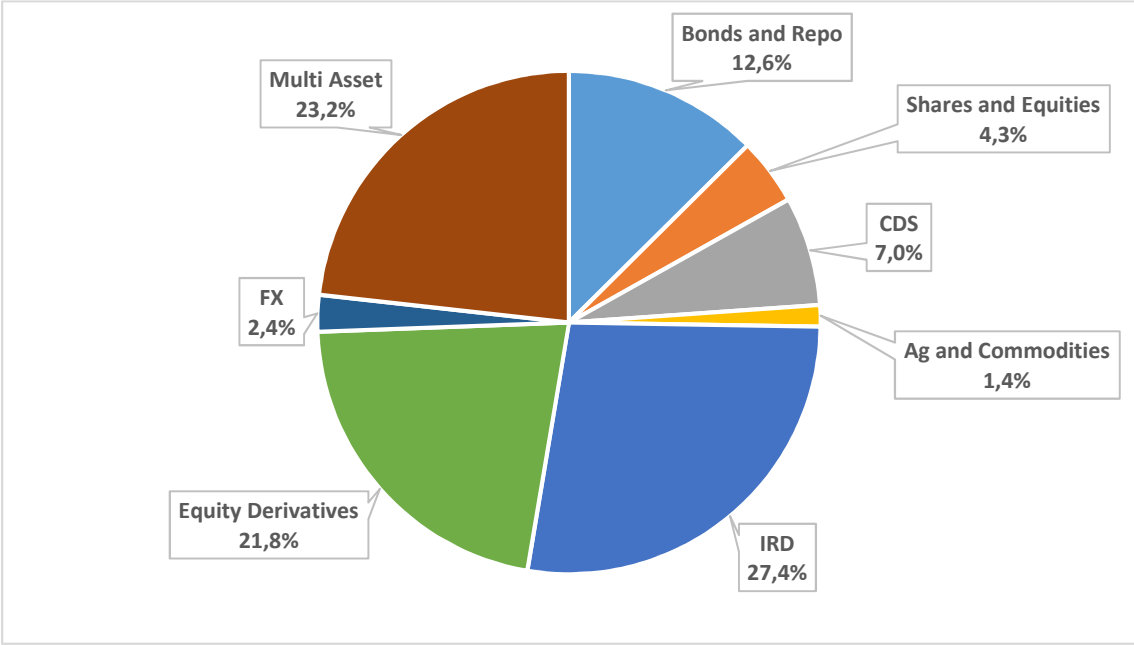


Chart 4b:

Asset Class Split of Total Required Initial Margin – Q4 2017

2.1.2 INITIAL MARGIN REQUIRED HOUSE/CLIENTS TOTAL

Initial margin requirements can apply to both clearing members' own accounts (i.e. house or proprietary account), and/or those of their client.

By the end of Q4 2018, reporting CCPs' total initial margin requirements for clients in America nearly tripled the requirements for clearing members (client USD 234.64 billion vs. house USD 82.63 billion). The APAC (client USD 29.28 billion vs. house USD 30.24 billion) and EMEA (client USD 154.12 billion vs. house USD 162.56 billion) regions on the other hand had higher requirements for clearing members. The global asset class splits for the house and client IM totals can be found in the table below:

Asset Class	House Total	Client Total
Bonds and Repo	71.10	8.95
Shares and Equities	13.59	13.78
CDS	22.95	21.70
Ag and Commodities	3.72	5.88
IRD	77.23	97.92
Equity Derivatives	30.90	107.73
FX	17.05	0.02
Multi Asset	38.89	162.06

Chart 5:

Global Asset Class Split for House & Client Initial Margin Total in USD billion – Q4 2018⁶

⁶ Sum of IM Required split by House/Clients Total is lower than Total IM required, due to no breakdown of IM required of NSE Clearing Limited

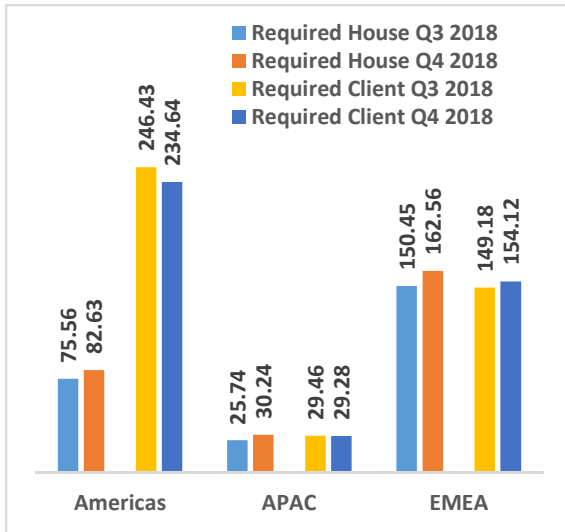


Chart 6a:

Initial Margin Required House/Clients Total in USD billion – Q3 2018 vs. Q4 2018^{7,8}

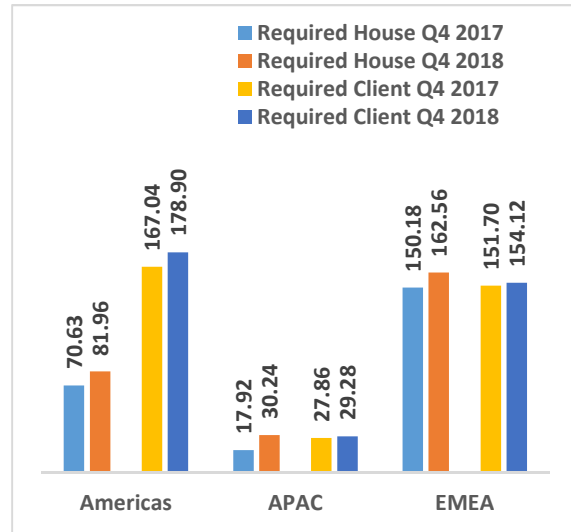


Chart 6b:

Initial Margin Required House/Clients Total in USD billion – Q4 2017 vs. Q4 2018^{7,8}

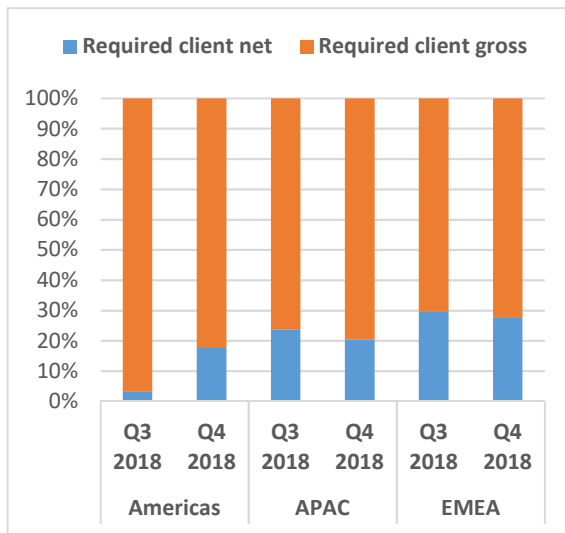


Chart 7a:

Initial Margin Required Client Net and Gross in USD billion – Q3 2018 vs. Q4 2018⁶

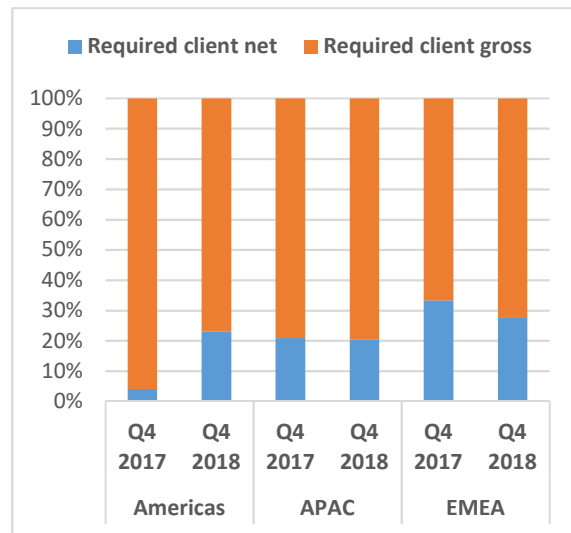


Chart 7b:

Initial Margin Required Client Net and Gross in USD billion – Q4 2017 vs. Q4 2018⁶

⁷ Deviation originates from exclusion of certain CCPs in YoY comparison in order to balance the comparison

⁸ Sum of IM Required split by House/Clients Total is lower than Total IM required, due to no breakdown of IM required of NSE Clearing Limited

2.1.3 INITIAL MARGIN REQUIRED CLIENTS NET/GROSS

Under CPMI-IOSCO PQD requirements, CCPs should clarify whether initial margin for the positions of indirect participants must be provided for each indirect participant’s own position (i.e. required client gross), or for the net position of a group of indirect participants (i.e. required client net) (CPMI-IOSCO, 2015).

Overall, the majority of clients’ initial margin required by reporting CCPs were collected on a gross basis. As of the end of Q4 2018, the comparison between gross and net basis in Americas was a respective USD 193.28 billion vs. USD 41.36 billion; in EMEA, USD 111.74 billion (gross) vs. USD 42.38 billion (net); and in APAC, USD 23.31 billion (gross) vs. USD 5.98 billion (net). The global asset class splits for the client net and client gross totals can be found in the table below:

Asset Class	Client Gross	Client Net
Bonds and Repo	0.88	8.07
Shares and Equities	5.22	8.56
CDS	21.70	0.00
Ag and Commodities	0.74	5.14
IRD	91.06	6.86
Equity Derivatives	56.48	51.25
FX	0.01	0.00
Multi Asset	152.23	9.83

Chart 8:

Asset Class Split for Client Gross and Net Initial Margin Total in USD billion – Q4 2018

2.2 DEFAULT FUND

2.2.1 DEFAULT FUND REQUIRED

Default fund (DF) is one of the components of the pre-funded financial resources provided by participants, used to allocate any losses arising in the event that one or more participants defaults on their obligations to the FMI and the resources provided by the defaulting party (or parties) are not sufficient to cover such losses (CPMI-IOSCO, 2015).

The Americas, which made up 52,3% of the total figure, had the largest default fund requirement at the end of 2018 Q4 (USD 47.00 billion); EMEA was next with 33,7% (USD 30.32 billion), followed by APAC with 14,0% (USD 12.61 billion).

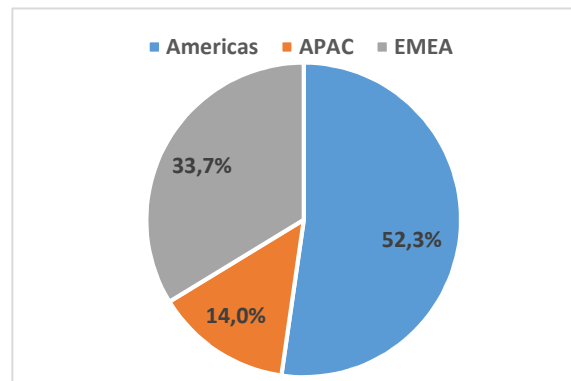


Chart 9a:
Default Fund Required – Q4 2018

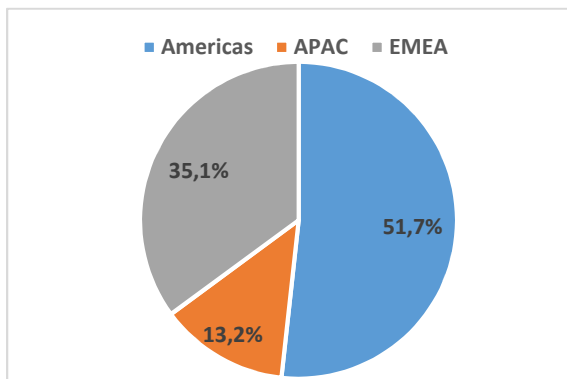


Chart 9b:
Default Fund Required – Q3 2018

For Q3 2018, the Americas made up 51,7% of the total figure with USD 47.35 billion; in EMEA (35,1%; USD 32.13 billion) the default fund required was higher than compared to Q4 2018. The APAC region makes 13,2% with USD 12.08 billion.

If you compare the Q4 2018⁹ data, the default fund requirements of USD 20.45 billion as of end of Q4 2017 for the Americas has more than doubled. The default fund requirements in the APAC region increased by more than 30% to USD 12.48 billion from USD 9.62 billion and in the EMEA region the level is more or less similar at approximately USD 30 billion.

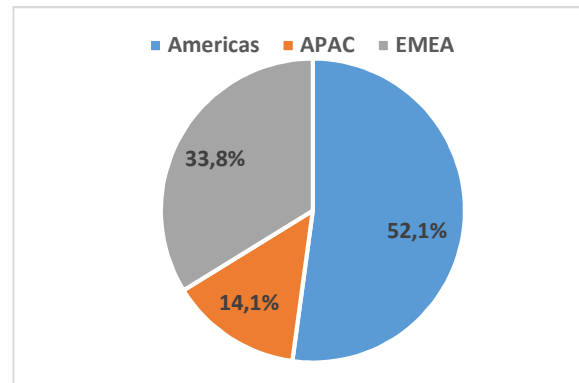


Chart 9c:
Default Fund Required – Q4 2017

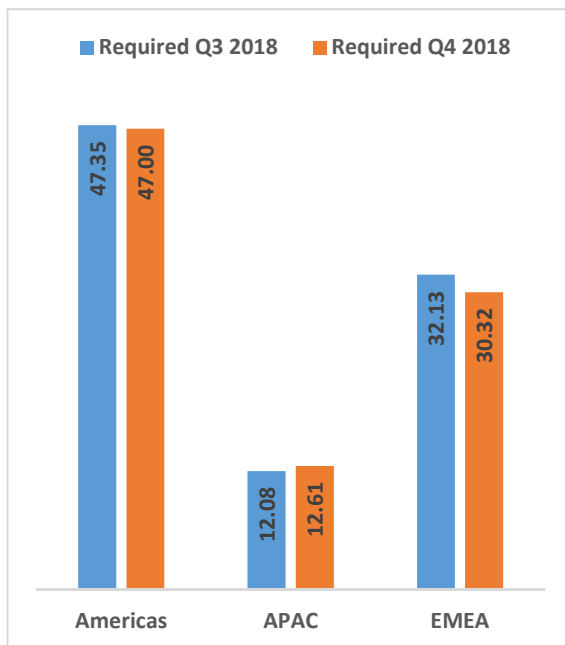


Chart 10a:
Default Fund Required in USD billion –
Q3 2018 vs. Q4 2018⁹

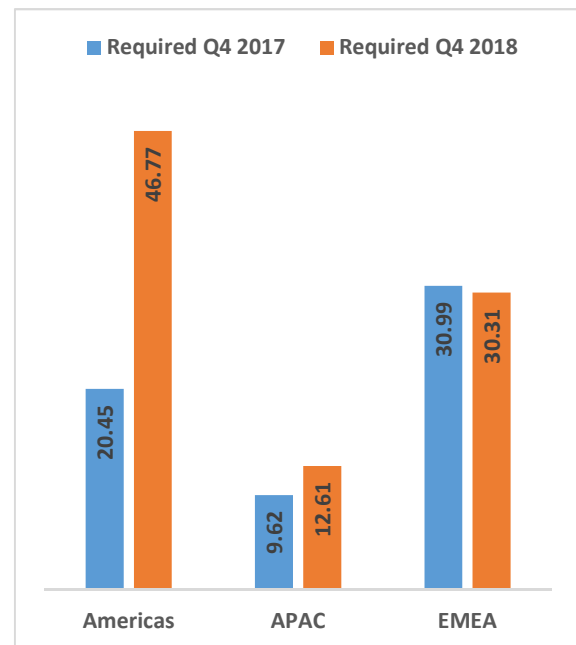


Chart 10b:
Default Fund Required in USD billion –
Q4 2017 vs. Q4 2018⁹

⁹ Deviation originates from exclusion of certain CCPs in YoY comparison in order to balance the comparison

2.3 COLLATERAL MAKEUP OF IM / DF

While members are required to post a set amount of initial margin and default fund contribution, the makeup of the collateral posted may have flexibility subject to the schedule of the CCP. The collateral can be made up of a combination of cash and non-cash collateral, and can be held at a variety of locations; the global totals can be seen below:

Collateral Posted in the Form of		Initial Margin	Default Fund
Cash	At Central Bank of Issue	12,6%	33,9%
	At Other Central Bank	0,8%	0,1%
	Secured Cash (Reverse Repo)	11,4%	16,7%
	Unsecured at Commercial Banks	5,2%	9,4%
Non-Cash	Sovereign Gov't Bonds - Domestic	36,7%	30,5%
	Sovereign Gov't Bonds - Foreign	18,6%	3,5%
	Agency Bonds	1,7%	3,8%
	State/Municipal Bonds	0,4%	0,4%
	Corporate Bonds	5,7%	0,5%
	Equities	3,6%	0,4%
	Mutual Funds/UCITS	0,0%	0,0%
	Commodities - Gold	0,0%	0,0%
	Commodities - Other	0,3%	0,1%
	Other	3,0%	0,8%

Chart 11:

Collateral Makeup of Initial Margin and Default Fund – Q4 2018

2.4 MARK-TO-MARKET

2.4.1 AVERAGE DAILY VARIATION MARGIN

Variation Margin can be defined as funds that are collected and paid out to reflect current exposures resulting from actual changes in market prices (CPMI-IOSCO, 2012).

In the CCP12 PQD data set, a majority of the total variation margin paid through the CCP by participants on each business day during the fourth quarter of 2018 was more or less even in the three regions: APAC (40,9%, USD 13.36 billion) and Americas (30,5%, USD 9.97 billion); 28,6% was generated in EMEA (USD 9.35 billion).

Compared to Q3 2018 (USD 7.94 billion) and to Q4 2017 (USD 2.15 billion), an increase especially in the APAC region can be seen. The total over the three regions more than doubled in one year from USD 13.85 billion to USD 32.68 billion.

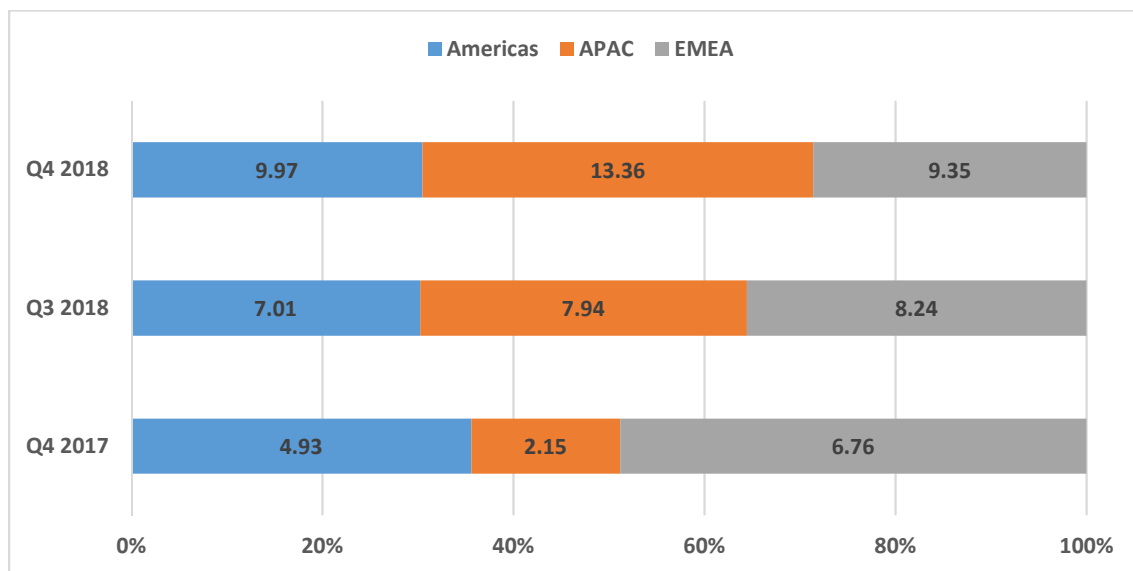


Chart 12:
Average Daily Variation Margin in USD billion – Q4 2017 vs. Q3 2018 vs. Q4 2018

APPENDIX 1 – THE LIST OF CCPS AND REGIONS

ORGANISATION^{10, 11}	REGION	Website for PQD Reports
B3 - Brasil Bolsa Balcao	Americas	http://www.b3.com.br/en_us/products-and-services/clearing-and-settlement/clearing/
Chicago Mercantile Exchange Group	Americas	http://www.cmegroup.com/clearing/cpmiosco-reporting.html
Depository Trust & Clearing Corporation	Americas	http://www.dtcc.com/en/legal/policy-and-compliance
Intercontinental Exchange (Credit)	Americas	https://www.theice.com/clear-credit/regulation
Intercontinental Exchange (US)	Americas	https://www.theice.com/clear-us/regulation#quantitative-disclosures
Intercontinental Exchange (NGX)	Americas	https://www.theice.com/ngx/documents
Minneapolis Grain Exchange	Americas	http://www.mgex.com/regulation.html
The Options Clearing Corporation	Americas	https://www.theocc.com/about/corporate-information/pfmi-disclosures.jsp
TMX Group	Americas	http://www.cdcc.ca/publications_qtdFiles_en
ASX Limited (Clear)	APAC	http://www.asx.com.au/regulation/regulatory-compliance/asx-clear.htm
ASX Limited (Futures)	APAC	https://www.asx.com.au/regulation/regulatory-compliance/asx-clear-futures.htm
Hong Kong Exchanges & Clearing Ltd (HKCC)	APAC	https://www.hkex.com.hk/eng/market/clr/SpecialTopics/IOSCO.htm
Hong Kong Exchanges & Clearing Ltd (SEOCH)	APAC	https://www.hkex.com.hk/eng/market/clr/SpecialTopics/IOSCO.htm
Intercontinental Exchange (Singapore)	APAC	https://www.theice.com/clear-singapore/regulation#quantitative-disclosures
Japan Securities Clearing Corporation	APAC	https://www.jpx.co.jp/jscc/en/company/fmi-pdf2.html
Korea Exchange	APAC	https://global.krx.co.kr/contents/GLB/02/0202/0202020203/GLB0202020203.jsp
NSE Clearing Limited (NSE)	APAC	https://www.nscclindia.com/NSCCL/disclosures/nsccl_dis_pfmi.htm
Shanghai Clearing House	APAC	http://www.shclearing.com/zcyjy/jgyzl/pfmi/
Singapore Exchange Ltd (DC)	APAC	https://www2.sgx.com/regulation/principles-financial-market-infrastructures-disclosure
Singapore Exchange Ltd (CDP)	APAC	https://www2.sgx.com/regulation/principles-financial-market-infrastructures-disclosure

¹⁰ Dark blue highlight signifies a CCP whose PQD data is new to the data pool as of Q4 2018

¹¹ Light blue highlight signifies a CCP whose Q4 2018 PQD data were not yet available, meaning the Q3 data was reused, updated with the Q4 2018 currency exchange rates

ORGANISATION^{12, 13}	REGION	Website for PQD Reports
Thailand Clearing House Co. Ltd.	APAC	https://www.set.or.th/tch/en/pfmi/pfmi_disclosure.html
The Clearing Corporation of India Ltd	APAC	https://www.ccilindia.com/RiskManagement/Pages/PFMI Disclosures.aspx
London Stock Exchange Group Ltd (CC&G)	EMEA	http://www.lseg.com/markets-products-and-services/post-trade-services/ccp-services/ccg/statistics/iosco-quantitative-disclosure
Dubai Commodities Clearing Corporation (DCCC)	EMEA	http://www.dccc.co.ae/
Eurex Clearing	EMEA	http://www.eurexclearing.com/clearing-en/about-us/regulatory-standards
Hong Kong Exchanges & Clearing Ltd (LME)	EMEA	https://www.lme.com/en-GB/LME-Clear/Technology/Reports/CPMI-IOSCO-Disclosure
Intercontinental Exchange (Europe)	EMEA	https://www.theice.com/clear-europe/regulation#quantitative-disclosures
Intercontinental Exchange (Netherlands)	EMEA	https://www.theice.com/clear-netherlands/regulation#quantitative-disclosures
Johannesburg Stock Exchange	EMEA	https://www.jse.co.za/services/post-trade-services/risk-management/quantitative-disclosures
KDPW_CCP S.A.	EMEA	http://www.kdpwccp.pl/en/Members/Transparency/Pages/Terms_of_Use.aspx
London Stock Exchange Group Ltd (LCH LTD)	EMEA	https://www.lch.com/resources/rules-and-regulations/ccp-disclosures
London Stock Exchange Group Ltd (LCH SA)	EMEA	https://www.lch.com/resources/rules-and-regulations/ccp-disclosures
Nasdaq Clearing	EMEA	https://business.nasdaq.com/trade/clearing/nasdaq-clearing/about-nasdaq-clearing/index.html
Central Counterparty National Clearing Centre	EMEA	http://www.nkcbank.com/viewCatalog.do?menuKey=461

¹² Dark blue highlight signifies a CCP whose PQD data is new to the data pool as of Q4 2018

¹³ Light blue highlight signifies a CCP whose Q4 2018 PQD data were not yet available, meaning the Q3 data was reused, updated with the Q4 2018 currency exchange rates

APPENDIX 2 – SUMMARIZED RESULTS FOR Q3 2018 VS. Q4 2018

Americas		Q3 2018	Q4 2018	+ / -
Initial Margin	Required house	USD 75.561.888.446,71	USD 82.630.640.990,74	9,35%
	Required client net	USD 7.850.250.869,32	USD 41.363.703.822,20	426,91%
	Required client gross	USD 238.580.741.512,58	USD 193.280.402.375,96	-18,99%
	Required total	USD 321.992.880.828,60	USD 317.274.747.188,90	-1,47%
	Held (pre-haircut)	USD 377.600.923.881,78	USD 395.523.709.520,51	4,75%
	Held (post-haircut)	USD 370.633.372.961,93	USD 320.843.117.288,60	-13,43%
Default Fund	Required	USD 47.347.658.516,44	USD 46.996.419.142,19	-0,74%
	Posted (pre-haircut)	USD 57.923.713.945,49	USD 58.035.073.011,51	0,19%
	Posted (post haircut)	USD 56.929.651.629,05	USD 56.897.753.457,65	-0,06%
Mark-to-Market	Average total VM paid to CCP each business day	USD 7.013.379.716,86	USD 9.966.059.515,30	42,10%

APAC		Q3 2018	Q4 2018	+ / -
Initial Margin	Required house	USD 25.739.563.589,00	USD 30.239.440.968,30	17,48%
	Required client net	USD 6.958.558.914,89	USD 5.978.052.320,50	-14,09%
	Required client gross	USD 22.501.493.368,18	USD 23.305.481.479,54	3,57%
	Required total	USD 58.577.490.259,40	USD 68.501.169.230,06	16,94%
	Held (pre-haircut)	USD 97.591.321.476,77	USD 170.722.644.398,20	74,94%
	Held (post-haircut)	USD 94.139.309.973,31	USD 156.473.234.612,97	66,21%
Default Fund	Required	USD 12.075.460.963,82	USD 12.612.144.975,13	4,44%
	Posted (pre-haircut)	USD 15.954.101.757,19	USD 17.359.559.575,44	8,81%
	Posted (post haircut)	USD 4.370.497.445,54	USD 17.062.085.709,84	290,39%
Mark-to-Market	Average total VM paid to CCP each business day	USD 7.936.598.196,29	USD 13.363.536.687,35	68,38%

EMEA		Q3 2018	Q4 2018	+ / -
Initial Margin	Required house	USD 150.449.930.577,94	USD 162.559.553.858,60	8,05%
	Required client net	USD 44.398.262.405,48	USD 42.383.656.790,44	-4,54%
	Required client gross	USD 104.781.440.098,13	USD 111.736.501.287,44	6,64%
	Required total	USD 299.629.633.187,23	USD 316.679.711.936,47	5,69%
	Held (pre-haircut)	USD 566.083.886.301,43	USD 575.984.974.719,13	1,75%
	Held (post-haircut)	USD 469.465.482.172,78	USD 486.033.615.240,79	3,53%
Default Fund	Required	USD 32.128.110.669,02	USD 30.316.154.496,87	-5,64%
	Posted (pre-haircut)	USD 33.356.680.641,73	USD 32.178.268.214,59	-3,53%
	Posted (post haircut)	USD 33.796.750.443,78	USD 31.883.818.765,74	-5,66%
Mark-to-Market	Average total VM paid to CCP each business day	USD 8.238.732.866,94	USD 9.347.467.016,61	13,46%

Global		Q3 2018	Q4 2018	+ / -
Initial Margin	Required house	USD 251.751.382.613,66	USD 275.429.635.817,64	9,41%
	Required client net	USD 59.207.072.189,69	USD 89.725.412.933,14	51,55%
	Required client gross	USD 365.863.674.978,89	USD 328.322.385.142,93	-10,26%
	Required total	USD 680.200.004.275,24	USD 702.455.628.355,43	3,27%
	Held (pre-haircut)	USD 1.041.276.131.659,98	USD 1.142.231.328.637,84	9,70%
	Held (post-haircut)	USD 934.238.165.108,02	USD 963.349.967.142,36	3,12%
Default Fund	Required	USD 91.551.230.149,27	USD 89.924.718.614,19	-1,78%
	Posted (pre-haircut)	USD 107.234.496.344,41	USD 107.572.900.801,54	0,32%
	Posted (post haircut)	USD 95.096.899.518,37	USD 105.843.657.933,23	11,30%
Mark-to-Market	Average total VM paid to CCP each business day	USD 23.188.710.780,09	USD 32.677.063.219,26	40,92%

APPENDIX 3 - INDICATORS

NO.	INDICATOR	DEFINITION
1	Initial margin (IM)	Collateral that is collected to cover potential changes in the value of each participant's position (that is, potential future exposure) over the appropriate closeout period in the event the participant defaults. (CPMI-IOSCO, 2012) ¹⁴ .
1.1	IM Required house	This term indicates the total Initial Margin Requirements of a CCP for clearing members (i.e. excluding their clients).
1.2	IM Required client net/client gross	Collecting margin on a gross basis means that the amount of margin a participant must post to the CCP on behalf of its customers is the sum of the amounts of margin required for each such customer. Collecting margin on a net basis means that the participant may, in calculating the amount of margin it must post to the CCP on behalf of its customers, offset the amounts of margin associated with the portfolios of different customers (CPMI-IOSCO, 2012). Under PQD requirements, CCPs should clarify whether Initial Margin Requirements for their clients are under client gross structure, or client net structure, or both.
1.3	IM Required total	This term indicates all the initial margin required by CCPs.
2	Default Fund (DF)	A fund, comprising pre-funded financial resources provided by participants, to allocate any losses arising in the event that one or more participants defaults on their obligations to the FMI and resources provided by the defaulting party (or parties) are not sufficient to cover such losses (CPMI-IOSCO, 2015).
2.1	DF Required	The total prefunded default fund contributions from clearing members required by CCPs.
3	Collateral makeup of IM / DF	Initial Margin and Default Fund contributions can be made up of (1) Cash at a central bank, (2) secured cash i.e. reverse repo, (3) unsecured cash at a commercial bank, (4) domestic and (5) foreign sovereign government bonds, (6) agency bonds, (7) state/municipal bonds, (8) corporate bonds, (9) equities, (10) mutual funds/UCITs, commodities (11) gold or (12) other, and (13) other.
4	Mark-to-Market enforced by CCP	This value calculated by the average total variation margin paid to the CCP by participants on each business day over the period multiplied by the number of business days during that period. Variation Margin can be defined as funds that are collected and paid out to reflect current exposures resulting from actual changes in market prices (CPMI-IOSCO, 2012). The higher amount of Mark-to-Market enforced by CCP indicates the more liquidity requirement for clearing members to cover mark-to-market losses.

¹⁴ CPSS-IOSCO (2012). *Principles for financial market infrastructures*. [online] Available from: <
https://www.bis.org/cpmi/publ/d_101.htm >

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