



Member Notification

Risk Notice 2022-040

07 July 2022

Margin parameters on cash securities

LCH SA sets the margin parameters for the margins related to the Cash Security risk algorithm pursuant to the Article 4.2.0.3 and to the Instruction IV.2-1.

This notice concerns the parameters set for the “total Initial Margin” (TIM) and the Additional Margins (the liquidity and concentration risk margin (LCRM), the de-netting and settlement risk (DNR) margin and the legal entity margin (LEM)) related to the Cash Security products.

This enhancement shall come into effect with the margin call on the morning of the 11 July 2022 for the positions at the close of the 8 July 2022.

These parameters are applied as part of the VaR risk framework available on the LCH web site: [here](#).

SA EquityClear Business Development & Relationship Management team (SAEquityClear@lch.com) remains at your disposal for any additional questions.

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I. Bucket classes

Securities are assigned to buckets constructed on their fundamental features such as the market segment of quotation, their product types (equities, bond, ETF, Warrants, Investments Funds...), liquidity and their typical volatility regime.

Family class code	Family class names	class code	Sub Class name
LIQ01	Stocks in main indices	L11ZZ	LIQ01 Penny Stocks
		L12ZZ	LIQ01 High Vol
		LQ1ZZ	LIQ01 Standard
LIQ02	Ordinary Equity – Continuous quotation	L21ZZ	LIQ02 Penny Stocks
		L22ZZ	LIQ02 High Vol
		LQ2ZZ	LIQ02 Standard
LIQ03	ETF/Trackers: Continuous quotation	LQ3ZZ	LIQ03 Standard
		L32ZZ	LIQ03 High Vol
LIQ04	Certificates/Warrants	LQ4ZZ	LIQ04 Standard
LIQ05	Other Products (Fixing Products, Convertibles Bonds/Bonds, EVT Vehicles, Other Illiquid products)	LQ5ZZ	LIQ05 Standard
LIQ06	Flat Rate	L63ZZ->L70ZZ	flat rate bucket form 30% to 100%
LIQ08	Euronext Growth - Continuous quotation	L81ZZ	LIQ08 Penny Stocks
		LQ8ZZ	LIQ08 Standard
DUR04->10	Bonds	DR4ZZ	modified duration in [0-1[Year
		DR5ZZ	modified duration in [1-4[Year
		DR6ZZ	modified duration from [4 Years included
		D10ZZ	Special bonds (e.g. Issuer from a particular category / markets such that an independent calibration shall be performed)

ZZ = Currency Code

II. Initial Margin

II.1 VaR based parameters

The VaR and Expected Shortfall confidence level are set at 99.72% on a holding period of 3 days. The look-back period is 2500 business days (calendar convention being Target 2) including a 2 years stress period.

The choice of lambda dictates how much weight is applied to the latest return compared to previous returns when calculating the Exponentially Weighted Moving Average (EWMA). The lambda parameters for this function is set at 0.99 and the EWMA seed volatility being calibrated on 60 days.

A floor is used to cap the margin reductions for each portfolio. This diversification floor is set at 20%.

II.2 Pool Risk parameters

- Pool Risk Parameters for the general and specific risk

Class code ¹	X ²	Y ³	Flat rate indicator
LQ1ZZ	7.31%	7.80%	No
L11ZZ	17.33%	12.89%	No
L12ZZ	14.10%	7.80%	No
LQ2ZZ	10.32%	7.80%	No
L21ZZ	30.39%	10.84%	No
L22ZZ	20.70%	7.80%	No
LQ3ZZ	6.88%	6.20%	No
L32ZZ	46.46%	0.00%	No
LQ4ZZ	64.27%	0.00%	Yes
LQ5ZZ	14.36%	0.00%	No
L63ZZ	30.00%	0.00%	Yes
L64ZZ	40.00%	0.00%	Yes
L65ZZ	50.00%	0.00%	Yes
L66ZZ	60.00%	0.00%	Yes
L67ZZ	70.00%	0.00%	Yes
L68ZZ	80.00%	0.00%	Yes
L69ZZ	90.00%	0.00%	Yes
L70ZZ	100.00%	0.00%	Yes
LQ8ZZ	19.59%	8.71%	No
L81ZZ	47.62%	10.57%	No
DR4ZZ	0.88%	0.38%	No
DR5ZZ	1.25%	0.49%	No
DR6ZZ	2.04%	0.44%	No
D10ZZ	na	na	na

- Intra-class charge

Class code	Maturities	Intra Coefficient ⁴
DR4ZZ	[0;1Y[0.27 %
DR5ZZ	[1;4Y[0.25 %
DR6ZZ	From 4Y included	0.18 %
D10ZZ	na	na

1 ZZ= Currency Code

2 X = Specific risk applied to the overall gross position (LP + SP)

3 Y = General market risk applied to the overall net position |LP - SP|

4 The intra coefficient is applied to the smallest common value between the net buying positions and the net selling positions of the concerned classes

III. Total Initial Margin

In addition to the Initial Margin, the total Initial Margin takes into account Wrong Way Risk, Event Risk and Self Referencing Risk (no parameter for this last one).

III.1 Wrong Way Risk

The positions concerned by the WWR are on:

- securities which are not in the Self Referencing Risk;
- but are in LQ1, LQ2, LQ8, i.e. stocks in main indices (AEX®, BEL20®, CAC40®, PSI® OBX®,...), ordinary stocks quoted in continuous and Euronext Growth stocks quoted in continuous and classified as financials' stock for instance;
- and in LQ3, i.e. ETF, benchmarked to a financial sector index for instance.

WWR scenarios are determined at security level and can differ from a member to another depending on the Clearing Member type (core / peripheral and systemic/non systemic):

WWR scenarios			Clearing Members			
			Core		Peripheral	
			Systemic	Non Systemic	Systemic	Non Systemic
Bank	Core	Systemic	-28.1%	-14.3%	-18.7%	-18.7%
		Non Systemic	-24.4%	-14.3%	-18.7%	-18.7%
	Peripheral	Systemic	-28.1%	-8.9%	-12.6%	-12.6%
		Non Systemic	-24.4%	-8.9%	-12.6%	-12.6%
Insurer	Systemic	-26.4%	-9.4%	-10.8%	-10.8%	
	Non Systemic	-26.4%	-9.4%	-10.8%	-10.8%	
Other Financial services			-22.6%	-12.5%	-9.0%	-9.0%
Index			-24.3%	-9.3%	-10.9%	-10.9%

When netting with Initial Margin contribution, the diversification floor applied is the same the one for VaR / ES algorithms and is set to 20%.

III.2 Event Risk

The event risk floor covers all instrument in the scope of cash security universe, except positions in Self Referencing Risk (SRR). The Event Risk tail scenario parameter are:

Class	shift up	shift down
LQ1ZZ	29%	24%
L12ZZ	35%	34%
L11ZZ	80%	50%
LQ2ZZ	42%	31%
L21ZZ	80%	80%
L22ZZ	80%	50%
LQ3ZZ	19%	24%
L32ZZ	55%	55%
LQ4ZZ	80%	80%
LQ5ZZ	57%	57%
L63ZZ	80%	80%
L64ZZ	80%	80%
L65ZZ	80%	80%
L66ZZ	80%	80%
L67ZZ	80%	80%
L68ZZ	80%	80%
L69ZZ	90%	90%
L70ZZ	100%	100%
LQ8ZZ	71%	50%
L81ZZ	80%	80%
DR4ZZ	50%	50%
DR5ZZ	50%	50%
DR6ZZ	50%	50%
D10ZZ	na	na

IV. Liquidity & Concentration Risk Margin

The LCRM is an additional margin that covers all securities and positions but the securities and positions eligible to the Self Referencing Risk

The Illiquidity buffer parameters are:

Class	Illiquidity buffer
LQ1ZZ	21%
L11ZZ	32%
L12ZZ	29%
LQ2ZZ	24%
L21ZZ	80%
L22ZZ	52%
LQ3ZZ	18%
L32ZZ	55%
LQ4ZZ	80%
LQ5ZZ	57%
L63ZZ	80%
L64ZZ	80%
L65ZZ	80%
L66ZZ	80%
L67ZZ	80%
L68ZZ	80%
L69ZZ	90%
L70ZZ	100%
LQ8ZZ	42%
L81ZZ	80%
DR4ZZ	50%
DR5ZZ	50%
DR6ZZ	50%
D10ZZ	na

The Liquidation Cost and diversification principle parameters are:

Class	Bid/Ask		ADTV constant participation rate	Diversification group	Diversification ratio default
	Standard Group	Exception Group			
LQ1ZZ	0.42%	4.06%	15%	I	α
L11ZZ	4.80%		15%		
L12ZZ	0.47%	3.31%	15%		
LQ2ZZ	6.00%	31.00%	15%		
L21ZZ	20.00%	-	15%		
L22ZZ	6.00%	12.81%	15%		
LQ3ZZ	2.00%	14.57%	15%	XI	1
L32ZZ	6.00%	14.57%	15%	IV	1
LQ4ZZ	7.24%	48.00%	15%	V	1
LQ5ZZ	7.24%	48.00%	15%	XII	1
L63ZZ	7.20%		15%	XII	1
L64ZZ	7.20%		15%	XII	1
L65ZZ	7.20%		15%	XII	1
L66ZZ	7.20%		15%	XII	1
L67ZZ	7.20%		15%	XII	1
L68ZZ	7.20%		15%	XII	1
L69ZZ	7.20%		15%	XII	1
L70ZZ	7.20%		15%	XII	1
LQ8ZZ	11.00%	-	15%	II	α
L81ZZ	33.00%	-	15%	III	1
DR4ZZ	8.50%	-	15%	VI	1
DR5ZZ	8.50%	-	15%	VII	1
DR6ZZ	8.50%	-	15%	VIII	1
D10ZZ	na	-	na	na	na

Diversification ratios α are calculated per diversification group "Group" and currency, for a given portfolio. It is floored at 50% and cap at 100%. This parameter is provided in the private file "CMF MA LCRM BREAKDOWN".

The market impact cap is set at 10 and the liquidation cost floor is set at 0.01€ of the absolute value of the position in net quantity.

V. De-Netting and settlement Risk

The “De-Netting and settlement Risk” (DNR) is an additional margin that consists in covering the risk due to:

- The mismatch between margin called and positions leaving the portfolio due to the settlement process, in full or in part (fails);
- The account structure discrepancy, where fail positions are sent back to a new account related to another collateral account.

The model assumes distinct settlement scenarios (‘settlement modes’) and computes margins for all portfolios accordingly. The DNR margin is the difference between the worst settlement mode and the ‘live’ mode, representing the last known position snapshot.

SCOPE OF POSITION AND PARAMETERS

Non-settled positions on all eligible assets guaranteed (equities, warrants, trackers, funds, bonds...) are concerned by the De-netting Risk.

De-netting Additional Margins	Settlement mode	Computation assumptions	NSPR - sub-scenario parameter
Intraday computation D	Mode ITD live	On live positions, i.e. usual ITD’ computation	-
	Mode ITD D	on the position resulting from a default during the current settlement day with no fails	-
	Mode ITD D+1	On position resulting from a default the following settlement day, D+1	DARP* and DORP**
End of Day computation D	Mode EOD live	On live positions, i.e. usual EOD’ computation	-
	Mode EOD D+1	On position resulting from a default the following settlement day	DARP* , DORP** and 0 (no fails)

* **Delivery AM Rate Parameter** : the morning fail rates given in the private files “Specific Margins Parameters”.

****Delivery COB Rate Parameter** : the end of day fail rates given in the private files “specific Margins Parameters”.

VI. Legal Entity Margin

The Legal Entity identifier Margin (LEM) aims to capture potential additional risks tied to the concentration of several portfolios under a specific member (at Legal Entity Identifier level).

LEM scope encompass all securities within all the portfolios that sit under a same Legal Entity, excluding those that are risked through the Self-Referencing Risk

LEM is calculating using the total Initial Margin and the LCRM algorithms with the parameters set in this Notice.

VII. Currency haircut parameters

Currency	SPAN Currency code "ZZ"	Name	Parameters for currency risk
AUD	AU	Australian dollar	5.7%
CAD	CA	Canadian dollar	5.1%
CHF	CH	Swiss franc	5.4%
CNY	CN	Yuan Ren-Min-Bi	6.6%
DKK	DK	Danish krone	0.2%
EUR	EU	Euro	0%
GBP	GB	Pound sterling	4.5%
HKD	HK	Dollar Hong-Kong	3.8%
HUF	HU	Hungarian forint	4.5%
JPY	JP	Japanese yen	4.8%
NOK	NO	Norwegian krone	8.3%
NZD	NZ	New Zealand dollar	3.8%
PLN	PL	Polish zloty	4.1%
SEK	SE	Swede krone	2.7%
SGD	SG	Singaporean dollar	5.2%
USD	US	American dollar	3.8%
ZAR	ZA	South Africa rand	7.4%

Note: Only securities quoted in EUR and currencies presented in this table are cleared by LCH SA.