



Guide to Nasdaq Clearing Default Funds

Revision 13, May 2023

Nasdaq Clearing AB

CONTENTS

Appendices.....	3
Disclaimer.....	3
Guide to the Nasdaq Clearing Default Funds	4
Revisions	4
Summary of changes in Revision 13	4
Executive Summary.....	5
Default fund capital structure.....	6
Regulatory Capital	6
Default Fund Resources and Other Capital	6
Determining the Size of the Regulatory Capital.....	9
Participants’ contributions.....	12
Clearing Members’ Contributions	12
Direct Clearing Clients’ (DCC) Contributions.....	13
Loss Sharing Pool Participants.....	13
Eligible Funds.....	13
Clearing capital waterfalls.....	14
Waterfalls	14
Replenishment Process	14
Rules and Regulations	15
Interest and Fees.....	15
Appendix 1: Loss in Multiple CLEARING SERVICES – Allocation of Loss when a Member is Active in Multiple Clearing Services.....	16
Waterfall Example	17

APPENDICES

Appendix 1 - Loss in several clearing services, p.16

DISCLAIMER

The content of this document may be subject to change. Nasdaq Clearing makes no representations or warranties with respect to the information and disclaims all liability for any use you made of the contents of this document. Nasdaq Clearing assumes no responsibility for any errors or omissions.

GUIDE TO THE NASDAQ CLEARING DEFAULT FUNDS

This document aims to provide the reader with a thorough overview of the structure of Nasdaq Clearing AB's (Nasdaq Clearing) clearing participant sponsored default fund.

The document is aimed at decision makers within Nasdaq Clearing's clearing participants' organizations. The objective is to inform participants and stakeholders about the structure and procedures of the Nasdaq Clearing default fund.

The first part of the document gives a description of Nasdaq Clearing's regulatory capital structure, including the default fund and criteria that determines its size. Contribution criteria for clearing members are also described. The second part defines the ranking in case of utilization of the default fund, i.e. the Waterfall. Finally, the third part describes the rules adopted by Nasdaq Clearing governing the default fund.

REVISIONS

Preliminary revision	April 2011
Revision 2	September 2011
Revision 3	February 2013
Revision 4	September 2013
Revision 5	October 2013
Revision 6	April 2014
Revision 7	September 2015
Revision 8	May 2017
Revision 9	October 2017
Revision 10	November 2017
Revision 11	June 2018
Revision 12	September 2021
Revision 13	May 2023

SUMMARY OF CHANGES IN REVISION 13

- Look-back period considerations
- Replenishment / Assessment power
- Sizing of Senior Capital

EXECUTIVE SUMMARY

The financial crisis of 2008 highlighted the importance of stable and resilient financial systems. Increasingly, legislators, regulatory bodies and other market participants have increased focus on risk management and the promotion of a stable and safe financial infrastructure.

Efforts to improve market stability are coordinated globally and a complete overhaul of the regulatory framework in both the EU and USA has resulted in a new regulatory regime for CCPs. Nasdaq Clearing is required to adapt to the new regulations and, at the same time, ensure clearing participants' implementation of new requirements and features.

One such mandatory requirement is for CCPs to have a clearing participant sponsored default fund. Clearing participant contributions to the default fund are mandatory, and the contributions are proportional to the exposures of each clearing participant.

Nasdaq Clearing determines the level of regulatory capital in accordance with its adopted Regulatory Capital and Default Fund Policy. The clearing participant sponsored default fund partly finances the regulatory capital. Nasdaq Clearing's tools for stress tests, CCaR¹ methodology and principles, are used in calculating the size of the default fund. CCaR fully meets all calculations criteria required by applicable regulations.

The Nasdaq Clearing's default fund has a market-segregated default fund structure. The structure applies separation of the Commodities, Seafood, and Financial markets (hereinafter referred to as "clearing services") in the Waterfall². When a clearing participant is active in several clearing services, contributions are required to each clearing service's respective default funds.

Clearing participant contributions to the default fund are normally made on a monthly basis. Eligible funds include cash and qualifying government bonds. Clearing participant contribution levels are based on their respective initial margins, based on a 3-month average. Minimum contribution levels are established and also serve as entrance levels for new clearing members and Direct Clearing and CC customers.

To further strengthen the contingent financial resources of the clearing house, Nasdaq Clearing has implemented an Assessment Power³.

Nasdaq Clearing's and participants' rights and obligations related to the default fund are set out in the Rules and Regulations of Nasdaq Clearing Derivatives Markets and Nasdaq Clearing Commodities Clearing Rules.

Nasdaq Clearing pays interest on cash contributions to the default fund. To the extent the Nasdaq Clearing Deposit Rate is below zero, Nasdaq Clearing may charge a negative interest rate on cash contributions.

¹ CCaR, Clearing Capital at Risk

² 'Waterfall' means the priority order in which the capital resources would be utilized in the event of a counterparty default where collateral provided would not be sufficient to cover the cost for closing out the defaulter's portfolio.

³ Clearing members' guarantee commitment (not pre-funded) to contribute additional capital if the pre-funded resources in the Waterfall is not sufficient.

DEFAULT FUND CAPITAL STRUCTURE

REGULATORY CAPITAL

The CCP is required to hold regulatory capital in order to, among other things, withstand a shortfall of the collateral provided by defaulting counterparties in the event of extreme but plausible market conditions. Nasdaq Clearing has dedicated regulatory capital resources specifically designated to cover the risk of counterparty losses in its clearing business, such as extreme situations where collateral provided and other resources may be insufficient. Furthermore, the regulatory capital resources secure uninterrupted business activity or an orderly winding down process while covering potential losses due to operational risks. The majority of these committed resources are available on short notice to ensure appropriate payment readiness.

It is essential that the CCP maintains sufficient regulatory capital that is readily available. Regulatory capital calculations are continuously updated through CCaR, a proprietary capital-at-risk calculation model that establishes the appropriate level of regulatory capital. CCaR generates “loss given default” calculations based on extreme but plausible stress scenarios and counterparty default assumptions. The data generated by CCaR is crucial to Nasdaq Clearing’s capital adequacy planning and has been used for this purpose since 2003.

DEFAULT FUND RESOURCES AND OTHER CAPITAL

In accordance with regulatory requirements, a clearing participant sponsored default fund must be held by a clearing house. This means that the clearing participants contribute, together with the CCP, to the regulatory capital. A clearing participant’s relative contribution is proportional to the CCP’s exposure to the clearing participant. One of the main reasons for the regulatory requirement is to ensure an alignment of risk between the CCP and its clearing participants. Another reason is to improve the financial strength of a CCP in an extreme counterparty default situation.

The structure of the default fund and the other capital resources provided by the CCP, also referred to as the Waterfall, is illustrated below.

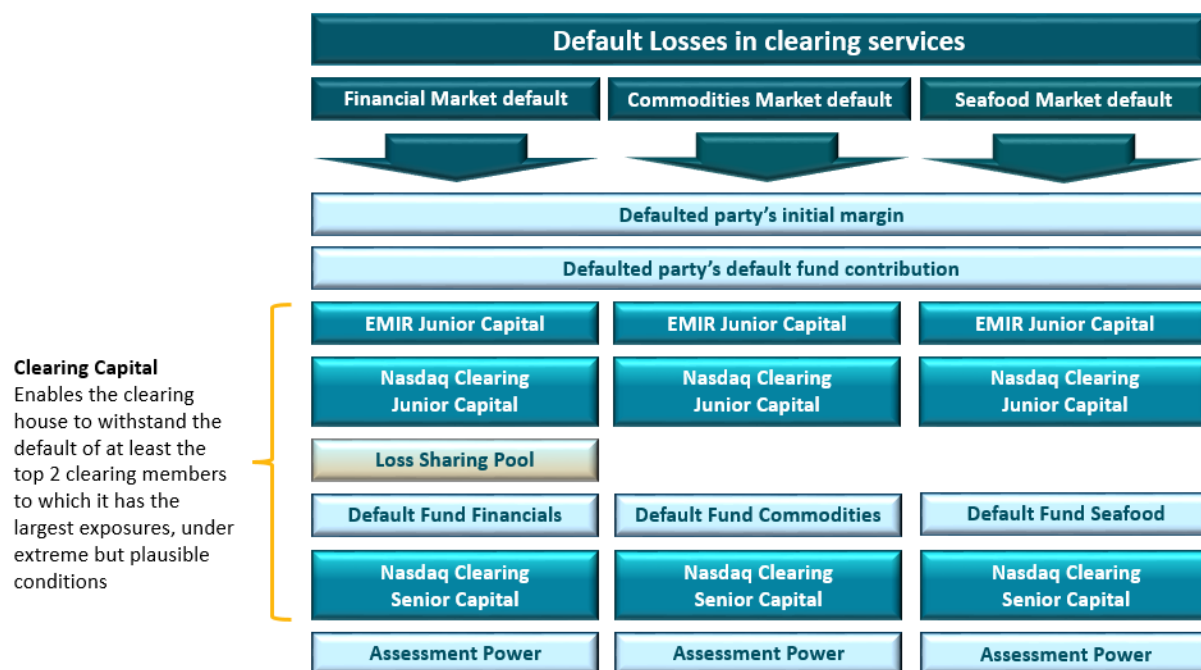


Figure 1: The default fund integrated in the Regulatory Clearing Capital covering default losses

The loss propagation starts from the top of the Waterfall and works its way through the capital resources towards the bottom of each pillar. The main characteristics of the Waterfall structure are: 1) separation of risk between the Financial Market, the Commodities Market, and the Seafood Market; 2) Nasdaq Clearing retains the first layer of exposure in the waterfall in the Junior Capital, followed by the default funds per clearing service and the senior capital.

In addition to the resources in the Waterfall, Nasdaq Clearing holds additional capital to cover operational & legal-, business- and investment risks in the CCP, as well as an orderly wind-down.



Figure 2: Nasdaq's Regulatory Capital covering non-default losses

CAPITAL RESOURCES – DESCRIPTION

Clearing Capital (Waterfall)

Disclaimer: The size of the resources indicated below may be subject to change.⁴ Nasdaq Clearing retains the right to adjust and refine its capital model. The size of the resources is also affected by the market dynamics and the exposures the CCP has in respect of its counterparties.

Nasdaq Clearing Junior Capital

In the event of a counterparty default where the defaulting counterparty's posted margin and default fund contribution would not be sufficient to cover the cost of closing out the portfolio, Nasdaq Clearing shall absorb the first layer of loss. This junior capital shall ensure that a strong incentive remains in place for Nasdaq Clearing to continue applying a conservative and prudent risk management. The junior capital is divided in two tranches in the waterfall. The total *EMIR Junior Capital* (across all clearing services) must amount to minimum of 25% of the Article 16 regulatory capital (excluding buffers). The allocation to the individual EMIR Junior Capitals reflects the relative risk exposure towards each clearing service. The second junior capital tranche, *Nasdaq Clearing Junior Capital*, is set at fixed levels per clearing service⁴.

Default Funds

Nasdaq Clearing holds separate default funds for the three clearing services:

- Commodities Market – Commodities Default Fund
- Financial Market – Financial Default Fund
- Seafood Market – Seafood Default Fund

The default funds shall function as the second layer in the event of a counterparty default. Each default fund is limited to counterparty defaults within its own clearing service. Contributions to the respective default funds are therefore only available to cover default losses arising in that particular clearing service's market(s). All contributions of the individual default funds are proportional to the exposure of all counterparties of Nasdaq Clearing, active on the individual clearing services' market(s). The Commodities Default Fund is denominated in EUR, the Financial Default Fund in SEK and the Seafood Default Fund in NOK.

The size of the default funds is calculated to fulfill two separate requirements:

- (1) To withstand a default of either the clearing service's largest, or of the second and third largest counterparty combined, in an extreme but plausible scenario.
- (2) As a part of the Clearing Capital; to jointly withstand a default of the two largest counterparties in an extreme but plausible scenario, when aggregated with the Junior and Senior Capital. This requirement will hereinafter be referred to as the Cover 2 requirement.

Nasdaq Clearing Senior Capital

In the event of a counterparty default, Nasdaq Clearing's senior capital shall be used as a third layer. Nasdaq Clearing carries the risk in this layer in the Waterfall structure, to ensure that, even if Nasdaq Clearing's junior capital is used and the default fund is directly exposed to absorb additional losses, there is still an alignment of risk between Nasdaq Clearing and its clearing members. The size of this third layer is set to be 30% of the Article 16 capital⁴. When aggregated with the junior capital and default funds per clearing service, Nasdaq Clearing will withstand a default of the two largest counterparties, under an extreme but plausible scenario.

Assessment power

Nasdaq Clearing has an Assessment Power as a recovery measure. This strengthens the clearing house's contingent financial resources by committing clearing members to contribute additional capital in the event that prior levels of protection have not been sufficient to cover counterparty default(s). The commitment equals an

⁴ The current level of resources is available on Nasdaq Clearing's web-site, refer to: <https://www.nasdaq.com/solutions/nasdaq-clearing-default-fund>

obligation to provide additional funds up to an amount equal to 130% of each clearing member's contribution to the Financial Default Fund, the Commodities Default Fund and the Seafood Default Fund. Thus, the Assessment Power is not a pre-funded capital contribution, but a commitment to provide additional funds if required. Commitments based on the default fund contributions to the Commodities Market are only available to cover default losses in the Commodities Market, commitments based on the default fund contributions to the Financial Market are only available to cover default losses in the Financial Market and commitments based on the default fund contributions to the Seafood Market are only available to cover default losses in the Seafood Market. For further information about Assessment Power, see Appendix 3.

Loss Sharing Pool – OTC interest rates

Nasdaq Clearing's offering of clearing of OTC-traded interest rate derivatives requires an incentive for clearing members involved in such clearing to support the clearing house in a default involving such instruments. The incentive to support the clearing house is achieved through a member-sponsored pre-funded collateral pool only exposed to default losses from OTC-traded interest rate derivatives – the Loss Sharing Pool.

The Loss Sharing Pool is in addition to, and without changes to, the existing regular waterfall. The Loss Sharing Pool does not for example influence the size of the default fund. In a "regular" default not including OTC-traded interest rate derivatives, the waterfall would function as described in picture 1.

The members participate in the Loss Sharing Pool by providing Loss Sharing contributions. The contribution is based on a percentage of the member's initial margin attributable to fixed income contracts. In the event of a default including OTC-traded interest rate derivatives, default losses from such derivatives and other related fixed income contracts remaining after the junior capital has been exhausted shall be covered by the Loss Sharing Pool⁵.

If the Loss Sharing Pool is exhausted in a default, remaining default losses from OTC-traded interest rate derivatives will be covered by the Financial Market Waterfall. The Loss Sharing Pool is not subject to any assessment power or similar.

THE ARTICLE 16 REGULATORY CAPITAL⁶

Nasdaq Clearing Capital Other risks

In addition to capital held to withstand counterparty defaults, Nasdaq Clearing also holds capital to ensure that it 1) can handle an orderly wind-down of its operation, and that it is adequately protected against 2) investment risk 3) operational and legal risk, and 4) business risks.

The sum of capital required for the above risks (1) – (4) constitutes the Article 16 capital. In addition to the aggregated sum, buffers are held. The Article 16 capital is illustrated in Picture 2 on page 7.

DETERMINING THE SIZE OF THE REGULATORY CAPITAL

To ensure the adequacy of capital reserves to cover counterparty losses, Nasdaq Clearing uses a capital methodology, CCaR, to calculate exposure from a set of market stress tests. The CCaR model generates a series of extreme but plausible scenarios. Each scenario incorporates a combination of market movements that produce portfolio losses that may not be covered by collateral. Each clearing member, direct clearing client or direct pledge customer is assigned a CCaR exposure number based on its portfolio positions and current margins. The CCaR exposure is taken as the worst-case scenario loss, minus current margin requirements, for each clearing service.

⁵ The Loss Sharing Pool is placed senior to the junior capital, but junior to the default fund in the regular waterfall of Nasdaq Clearing. If the defaulted participant is a clearing member, its individual Loss Sharing contribution will always be used for covering default losses before the junior capital and the non-defaulting members' Loss Sharing contributions are used.

⁶ The regulation around this part of the Regulatory Capital is determined in Article 16 of EMIR (European Market Infrastructure Regulation).

DEFAULT FUND SIZE

The minimum size of the Commodities Default Fund, the Financial Default Fund and the Seafood Default Fund are determined to withstand default of either the largest or the sum of the second and third largest counterparty exposure in the Commodities Market, the Financial Market and the Commodities Market, respectively. The aggregated amount of all clearing participants' contributions in each clearing service, and consequently also all clearing participants' individual contributions, are therefore directly linked to the largest counterparty exposures the CCP faces in each clearing service. When determining the size of the default funds, Nasdaq Clearing applies the highest CCaR (largest individual or sum of second and third largest) value generated during the look-back period for each clearing service. Nasdaq Clearing applies a look-back period of at least 6 months when sizing the default fund.

The European Market Infrastructure Regulation (EMIR) stipulates that a CCP shall establish a minimum amount for the size of the default fund. Nasdaq Clearing's minimum size – notwithstanding the calculations of the preceding section – for the Commodities Default Fund is 5 MEUR, the Financial Default Fund is 50 MSEK, and the Seafood Default Fund is 10 MNOK.

To ensure a sufficiently large Clearing Capital in an upward exposure trend, and to avoid intra-monthly default fund adjustments and reallocations of default fund requirements, Nasdaq Clearing may also apply a Clearing Capital Buffer to increase the size of one or more of the individual default funds. The size of the buffer will not exceed 20% of the pre-buffer Clearing Capital resources per clearing service. The buffer will be included in the default fund of the applicable clearing service. In situations where the most current stress test values are considerably lower than the relevant Cover 2 high-point during the look-back period, the buffer may be applied to a lesser degree or not at all.

CLEARING CAPITAL SIZE

Aggregated with the default funds, Nasdaq Clearing holds additional capital to withstand the simultaneous default of its two largest counterparty exposures, as defined in the CCaR calculation described above. This aggregated capital ("Clearing Capital") shall be sufficient to cover the sum of the default of the two largest exposures per clearing service, i.e. the following scenarios shall be covered at all times; 1) the two largest exposures in the Commodities Market, 2) the two largest exposures in the Financial Market, 3) the two largest exposure in the Seafood Market. When determining the total size of the Clearing Capital, Nasdaq Clearing applies a look-back period of minimum 6 months for the CCaR values. The look-back period ensures that the available Clearing Capital will be retained at an appropriate level, even with temporary reductions in counterparty exposures.

$$\begin{aligned} \text{Commodities} &= \text{Junior Capital COM} + \text{Default Fund COM} + \text{Senior Capital COM} \\ \text{Financials} &= \text{Junior Capital FIN} + \text{Default Fund FIN} + \text{Senior Capital FIN} \\ \text{Seafood} &= \text{Junior Capital SF} + \text{Default Fund SF} + \text{Senior Capital SF} \end{aligned}$$

Equation 1: Available Financial Resources per clearing service

ARTICLE 16 CAPITAL SIZE

In addition to the Clearing Capital, Nasdaq Clearing holds capital sufficient to ensure an orderly winding-down, and capital to adequately protect Nasdaq Clearing against any credit, counterparty, market, liquidity, operational, legal and business risks. The capital for an orderly wind-down is set to cover operational expenses during the wind-down period. The investment risk is estimated by applying the standardized Basel method to measure capital requirements for market and credit risk in assets held in Nasdaq Clearing's balance sheet. The business risk is assessed by applying stress scenarios onto Nasdaq Clearing's business model (with a lower threshold amounting to 3 months' operational expenses). Finally, the operational and legal risk is set at 15% of revenues. In addition to this, a notification buffer of 10% must be held. Nasdaq Clearing can opt to hold additional buffer in order to manage the capital effectively.

HANDLING OF BREACHES

In the event of the result of the CCaR stress test exceeding the Available Financial Resources of a clearing service, Nasdaq Clearing will immediately implement one or more of the measures listed below:

- **Extraordinary Margin Requirement** – Nasdaq Clearing will apply an extraordinary margin requirement to the member(s) or direct clearing participant(s) driving the breach, in order to reduce stressed exposure to an acceptable level by the next official margin call. The member(s) and direct clearing participant(s) will be relieved of the extraordinary margin requirement once the size of the default fund in question has been increased to an adequate level.
- **Margin parameter change** – Nasdaq Clearing may implement a general increase of margin parameters in the applicable clearing service, as a temporary measure, until an increase of the default fund in question has been made.
- **Intra-monthly default fund update** – Nasdaq Clearing will initiate an intra-quarterly increase of the applicable default fund. The new default fund requirement shall be covered by the members and direct clearing participant after the notification is received.

Nasdaq Clearing may as well apply these measures for precautionary reasons. For instance, if the Available Financial Resources barely cover the CCaR stress test in conjunction with a substantial CCaR stress test increase, Nasdaq Clearing may implement one or more of the measures listed above.

PARTICIPANTS' CONTRIBUTIONS

Participants' default fund contributions are based on pro-rata principles.

Contributions to the default fund are normally made on a monthly basis. A participant's contribution level may fluctuate from month to month due to top exposures determining the default fund size, the clearing members' and customers' own behaviors and the introduction of new markets. Calculations of contribution levels are executed and communicated to participants in ample time prior to the funding due date. Members have five business days to meet an updated default fund requirement after receiving a notification. Nasdaq Clearing has the right to make a request for a contribution between regular contributions if the exposures fluctuate in excess of certain thresholds.

Minimum contribution levels for participants' are deployed as stipulated below.

CLEARING MEMBERS' CONTRIBUTIONS

Clearing members' contributions to the default fund are made by clearing members for their own exposures (including exposures in respect of client accounts), but not for Direct Clearing Clients' exposures. The clearing members' default fund contribution is proportional to the members' exposure in the clearing service(s) where they are active.

The individual clearing member's share of the relevant default fund is based on its initial margins relative to the total amount for all counterparties' initial margin for the respective clearing service. The calculations are based on 3-month averages. These criteria ensure that each clearing member's contribution is proportional to the CCP's exposure towards the clearing member.

$$\text{Weight (counterparty } i, \text{ clearing service } k) = \frac{\text{Initial Margin}_{i,k}}{\text{Aggr. Initial Margin}_k}$$

Equation 2: Weight for counterparty i in clearing service k

When determining an individual member's net initial margin, Individual Clearing Account (ICA) exposures shall be weighted by 50%. Clearing members holding more than one ICA will otherwise contribute a larger share of the default fund in comparison to the risk they actually pose to the CCP. ICAs are more likely to be ported to another clearing member than other client positions in the event of a default of a clearing member. They are also margined on a gross basis, which means that market risk scenarios are not consistent across the ICAs belonging to one specific Clearing Member.

Minimum contribution levels to the default fund are as defined in Table 1 below.

Clearing Service	Minimum contribution level	
Financial Market	300 000	SEK
Commodities Market	30 000	EUR
Seafood Market	250 000	NOK

Table 2 – Minimum Contribution Level Clearing members.

Note, new clearing members' entrance will also be based on minimum contribution limits.

In cases where a clearing member is active in all clearing services, contributions are required to all clearing services' default funds.

DIRECT CLEARING CLIENTS' (DCC) CONTRIBUTIONS

The individual DCC's share of the relevant default fund is based on its initial margins relative to the total amount for all counterparties' initial margin for the respective clearing service. The calculations are based on 3-month averages. These criteria ensure that each DCC's contribution is proportional to the CCP's exposure towards the DCC (please see *Equation 2* above).

Minimum contribution levels to the default fund are as defined in Table 4 below.

Clearing Service	Minimum contribution level	
Financial Market	300 000	SEK
Commodities Market	30 000	EUR

Table 4 – Minimum Contribution Level DCC's.

Note: new DCCs' entrance will also be based on minimum contribution limits.

LOSS SHARING POOL PARTICIPANTS

The Loss Sharing Pool is a member-sponsored, pre-funded collateral pool kept exclusively for default losses in OTC-traded interest derivatives. Loss sharing participants are given five business days to meet an updated loss sharing requirement after receiving notification. The contribution per loss sharing participant is equal to 3% of the 3-month average IM of the participant's fixed income portfolio. In addition, the following limits apply:

Contribution per LSP participant	Contribution level	
Minimum contribution	3 000 000	SEK
Maximum contribution	500 000 000	SEK

Table 5 –Contribution Level per Loss Sharing Participant

ELIGIBLE FUNDS

Nasdaq Clearing will accept as contributions to the default fund:

- Cash: EUR, NOK, SEK, DKK, USD, GBP
- Qualified government securities – please see Appendix 14 of the [Derivatives Market Clearing Rules](#) or Appendix 10 of the [Commodities Market Clearing Rules](#).

Government securities are provided under a pledge arrangement, i.e. the ownership of pledged securities will remain with the party pledging the securities.

Cash is paid to Nasdaq Clearing's bank accounts (with title transfer). Nasdaq Clearing invests the cash in accordance with its investment policy, available on Nasdaq Clearing website.⁷

Nasdaq Clearing provides interest on cash contributions. To the extent the Nasdaq Clearing Deposit Rate is below zero, Nasdaq Clearing may charge a negative interest rate on cash contributions. Nasdaq Clearing applies haircuts on eligible funds.

⁷ <http://business.nasdaq.com/trade/clearing/nasdaq-clearing/risk-management/investment-policy/index.html>

CLEARING CAPITAL WATERFALLS

If a Nasdaq Clearing counterparty defaults, Nasdaq Clearing will, after any coverage available to Nasdaq Clearing (pledged or otherwise provided collateral and guarantees) with respect to the defaulter's obligations has been applied and proven insufficient, have recourse to the default fund contribution for the defaulting counterparty. If a loss remains after this, the funds in the Clearing Capital, including the default fund, shall be used in the order described in the Waterfall examples below, (iii) – (x).

WATERFALLS

CLEARING MEMBER DEFAULT

- i) Defaulting clearing member's collateral
- ii) Defaulting clearing member's total default fund contributions, however not less than the minimum contribution (see Table 2)
- iii) Nasdaq Clearing Junior Capital in the clearing service where the loss has occurred
- iv) Loss Sharing Pool, if the defaulted portfolio contains Generic Rates Instruments.
- v) Default fund contributions of non-defaulting clearing participants in the clearing service where the loss has occurred
- vi) Nasdaq Clearing Senior Capital.
- vii) Assessment Power in the clearing service where remaining loss exists (recovery tool)

DCC CUSTOMER DEFAULT

- (i) Defaulting DCC's collateral
- ii) Defaulting DCC's total default fund contributions, however not less than the minimum contribution (see Table 4)
- iii) Nasdaq Clearing Junior Capital in the clearing service where the loss has occurred
- iv) Loss Sharing Pool, if the defaulted portfolio contains Generic Rates Instruments.
- v) Default fund contributions of non-defaulting clearing participants in the clearing service where the loss has occurred
- vi) Nasdaq Clearing Senior Capital
- vii) Assessment Power in the clearing service where remaining loss exists (recovery tool)

REPLENISHMENT PROCESS

If any of the Clearing Capital funds (including default funds) are used due to a default of a counterparty, the capital used must be replenished through new contributions by the non-defaulting clearing participants and Nasdaq Clearing. Replenishment of the Clearing Capital shall follow a procedure similar to the one applied to quarterly contribution procedures, but in a separate replenishment contribution request.

Replenishment of default fund contributions shall be effected within two business days after request (including capital provided by Nasdaq Clearing).

Replenished funds shall not be put into its original position in the Waterfall until a 30-day period has elapsed. During this "Interim Period" the replenished funds shall be put into a more senior level (above the Assessment Power). During the Interim Period, the same priority order within the replenished funds shall be applied as with the normal Waterfall (i.e. replenished Nasdaq Clearing Junior Capital below replenished default fund contributions etc.). When the Interim Period has elapsed, the funds shall be moved down to their original, junior levels. For further information about replenishment, see Appendix 3.

RULES AND REGULATIONS

Clearing participants' and Nasdaq Clearing's rights and obligations in relation to the default fund are governed by the default fund rules included in the Rules and Regulations of Nasdaq Clearing Derivatives Markets, as well as in Nasdaq Clearing Commodities Clearing Rules.

The default fund rules include, among other things:

- Rules describing how and when default fund contributions shall be posted by clearing participants and how a clearing participant's contribution is calculated.
- Terms on which default fund contributions are held.
- Description of the structure of the default fund.
- Rules describing how Nasdaq Clearing shall reduce or bear the losses with respect to counterparty default, including application of defaulter's contributions.
- Rules describing under what conditions Nasdaq Clearing may have access to the default fund and description of application of default fund (waterfall).
- Terms regarding replenishment of funds after recourse to the default fund.
- Rules on recoveries from a defaulter
- Terms for releasing contributions and Assessment Power in case of termination of clearing membership.

INTEREST AND FEES

Nasdaq Clearing gives interest on cash contributions linked to a reference rate. To the extent the Nasdaq Clearing Deposit Rate is below zero, Nasdaq Clearing may charge a negative interest rate on cash contributions. The return on the cash contributions to the clearing members are linked to an applicable reference rate with a spread. More information about the interest rate return can be found on the CMS-web.

Nasdaq Clearing may charge a value based fee for contributed government bonds⁸.

⁸ Transaction fees for posting and release of eligible securities may also be applied.

APPENDIX 1: LOSS IN MULTIPLE CLEARING SERVICES – ALLOCATION OF LOSS WHEN A MEMBER IS ACTIVE IN MULTIPLE CLEARING SERVICES

A default loss occurs when the costs of closing out the portfolio exceed the available collateral. The allocation of losses to two or more clearing services is simple when the clearing services are separated. Margin requirements are calculated and collateral are provided and held separately, and total costs are easily allocated to the respective clearing services. The allocation of a default loss becomes more complex when a member is active in multiple clearing services, under one membership. In this case, the aggregated margin requirement of all the clearing services is combined and available collateral needs to be allocated in relation to exposures.

The allocation of default loss in the combined scenario is determined by comparing the close-out costs of the instruments on the different clearing services to the gross margin requirement of each clearing service. If the realized value of the collateral does not match the netted margin requirement, the collateral surplus/deficit will be allocated in relation to the total margin requirement of each clearing service.

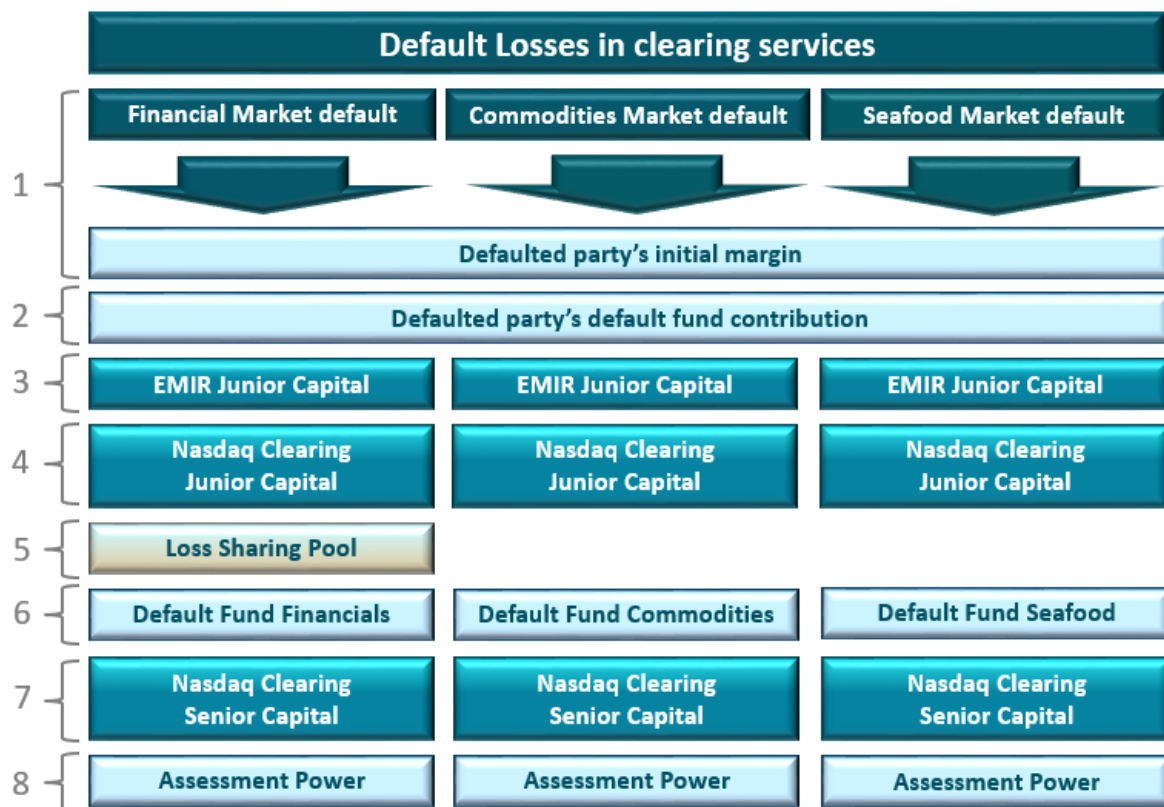


Figure 3: Tranches of the Nasdaq Clearing “Waterfall”.

1. A default loss occurs if the cost of closing out a defaulting party’s portfolio exceeds the realized value of the collateral available to the CCP. The specific loss in each clearing service is determined by:
 - Close-out costs per instrument and clearing service
 - Allocation of collateral in relation to exposure to each clearing service
2. Contributions by the defaulting counterparty to all clearing service-specific default funds are used.
3. The allocation of the Nasdaq Clearing Junior Capital is determined by the relative sizes of the respective default funds. A surplus in one clearing service can be used to cover a remaining loss on the other; hence the entire Junior Capital will always be available.
4. Default fund contributions by non-defaulting counterparties are used. The loss is spread pro-rata among contributors to cover the default losses in the respective clearing services.

5. The allocation of Nasdaq Clearing Senior Capital follows the same procedures as in step 3.
6. The Assessment Power is used up to an amount corresponding to any remaining loss in the relevant clearing service. Each non-defaulting counterparty will contribute with a pro-rata amount.

WATERFALL EXAMPLE

DEFAULTING CLEARING MEMBER'S COLLATERAL AND ALLOCATION OF DEFAULT LOSS WHEN MEMBER IS ACTIVE IN FINANCIAL AND COMMODITIES MARKET

The default loss equals the amount that the total close-out costs exceed the available collateral after realization. In the example below the default loss is 150 MSEK.

Total default loss	
Close-out costs for Commodities Market	-270 MSEK
Close-out costs for Financial Market	-580 MSEK
Realized collateral	700 MSEK
Default loss	-150 MSEK

To properly allocate the default loss to each of the two clearing services for the purpose of the Default Fund Waterfall, the default loss is broken down into the close-out cost balance and realized collateral deficit/surplus.

Close-out cost balance

The close-out cost balance corresponds to the amount that the aggregate cost of closing out the defaulting member's contracts deviates from the margin requirement. The total amount of close-out costs in this example is 50 MSEK. This amount is allocated to each clearing service in the table below.

Clearing Service	Close-out costs	Margin requirement	Close-out cost balance
Commodities Market	-270	-200	-70 MSEK
Financial Market	-580	-600	+20 MSEK
Total	-850	-800	-50 MSEK

Realized collateral deficit/surplus

The value of the realized collateral is compared to the total margin requirement for both clearing services. Any surplus or deficit is allocated in relation to the individual margin requirements of each clearing service. The realized collateral deficit in this example is 100 MSEK.

Value of collateral after realization	Total margin requirement	Collateral deficit
700	-800	-100 MSEK

The collateral deficit is allocated to each clearing service using the relative size of the defaulting member's margin requirement of each clearing service as seen in the table below.

Clearing Service	Margin requirement	% of total margin	Allocated collateral deficit
Commodities Market	-200	25%	-25 MSEK
Financial Market	-600	75%	-75 MSEK
Total	-800	100%	-100 MSEK

Note: In case the margin requirement is positive in one clearing service the margin requirement is set to 0 when calculating the relative size of each clearing service's margin requirement. As a result the entire collateral deficit/surplus will be allocated to the other clearing service. If both margin requirements are positive, any collateral surplus will be shared equally by both clearing services.

Allocation of default loss

The close-out cost balance and the allocated collateral deficits are now summed to allocate the default loss on each clearing service.

Clearing Service	Close-out cost balance	Realized collateral deficit	Default loss
Commodities Market	-70	-25	-95 MSEK
Financial Market	+20	-75	-55 MSEK
Total	-50	-100	-150 MSEK

The total default loss after realization of collateral is 150 MSEK, of which 95 MSEK is allocated to the Commodities Market and 55 MSEK to the Financial Market.

DEFAULTING CLEARING MEMBER'S DEFAULT FUND CONTRIBUTIONS TO ALL CLEARING SERVICES

The next step is to cover the allocated default losses with the defaulting member's contributions to each of the clearing service-specific default funds.

Clearing Service	Default loss	Default fund contributions	Remaining loss
Commodities Market	-95	5	-90 MSEK
Financial Market	-55	25	-30 MSEK
Total	-150	30	-120 MSEK

The remaining loss after the defaulting member's contributions have been used is 120 MSEK, of which 90 MSEK is allocated to the Commodities Market and 30 MSEK to the Financial Market.

NASDAQ CLEARING JUNIOR CAPITAL

The entire Nasdaq Clearing Junior Capital of 100 MSEK is used to cover the remaining loss of 120 MSEK. The remaining loss after Nasdaq Clearing's Junior Capital is 20 MSEK. The allocation within Nasdaq Clearing's Junior Capital (JC) is determined by the relative size of each clearing service-specific default fund. The Financial Default Fund and Commodities Default Fund respectively correspond to 48% and 52% of the total member contributed default fund given the current default fund size. Consequently, at least 48 and 52 MSEK will be available to cover for a loss in the Financial Market and Commodities Market respectively. A surplus on one of the clearing services' Junior Capital can be used to cover a loss on the other clearing service; hence the entire Nasdaq Clearing Junior Capital will always be available.

Clearing Service	Loss	Minimum available JC	Allocated JC	Remaining loss
Commodities Market	-90	52	70	-20 MSEK
Financial Market	-30	48	30	0 MSEK
Total	-120	100	100	-20 MSEK

A loss of 20 MSEK remains on the Commodities Market when Nasdaq Clearing's Junior Capital has been used.

DEFAULT FUND CONTRIBUTIONS FROM NON-DEFAULTING COUNTERPARTIES

The remaining loss of 20 MSEK is allocated to the Commodities Default Fund. The loss is spread pro-rata among the non-defaulting contributors to the default fund in relation to their contributions.