

Nasdaq Clearing AB

Recovery Plan Summary 2024

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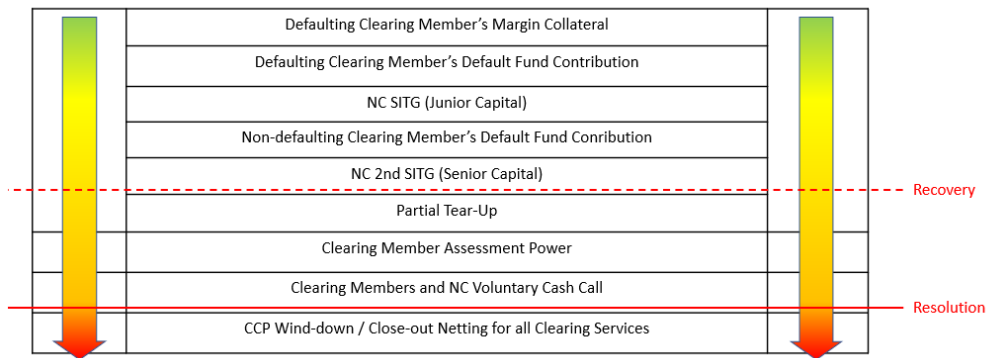
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1. Introduction

The offering of clearing services exposes Nasdaq Clearing to a number of risks, in particular counterparty credit risk (clearing member’s default risk) but also other types of risk (non-default risks). The Nasdaq Clearing risk management framework builds on the highest standards, which for default risk includes strict membership and credit requirements, robust initial margin and stress testing models and an efficient default management process. For non-default risks, Nasdaq Clearing employs an Enterprise Risk Management (“ERM”) approach that manages risks within an approved risk appetite, and consequently creates value for our clients and shareholders, through objective and consistent identification, assessment, monitoring, and measurement of significant risks across the company.

To address the challenges posed by the growing importance of CCPs, and the potential risks for financial stability if a CCP were to fail, the European Commission adopted a legislative proposal on CCP recovery and resolution which entered into force on 11 February 2021 (Regulation (EU) No 2021/23).

A CCP must ensure that it has adequate resources to absorb the losses that result from the default of one or more clearing members (“CMs”). The resources are contributed by the CCP itself as well as by its clearing members. The total resources available to Nasdaq Clearing for this protection (referred to as the Waterfall) shows the order in which Nasdaq Clearing can use these resources. Nasdaq Clearing’s Waterfall is illustrated below. The below picture illustrates different layers of regular default management process (“business as usual”) as well as the available tools for Recovery process if the funds and the capital from the Waterfall are not sufficient to cover the losses.



Nasdaq Clearing has protective measures and capital buffers in place to cover losses from risks that may occur under “business as usual” (BAU) circumstances. Should the BAU risk management fail, i.e. under extraordinary circumstances, Nasdaq Clearing will rely on its Recovery framework which includes a comprehensive set of Recovery options, in order to return to a healthy financial and operational position. In the case where Nasdaq Clearing’s implemented Recovery Tool(s) are insufficient to return to a healthy financial and operational position, or where the implementation of the Recovery Plan may negatively affect financial stability, Resolution would be triggered.

2. Protection under “business as usual” circumstances

2.1. BAU for default risk events

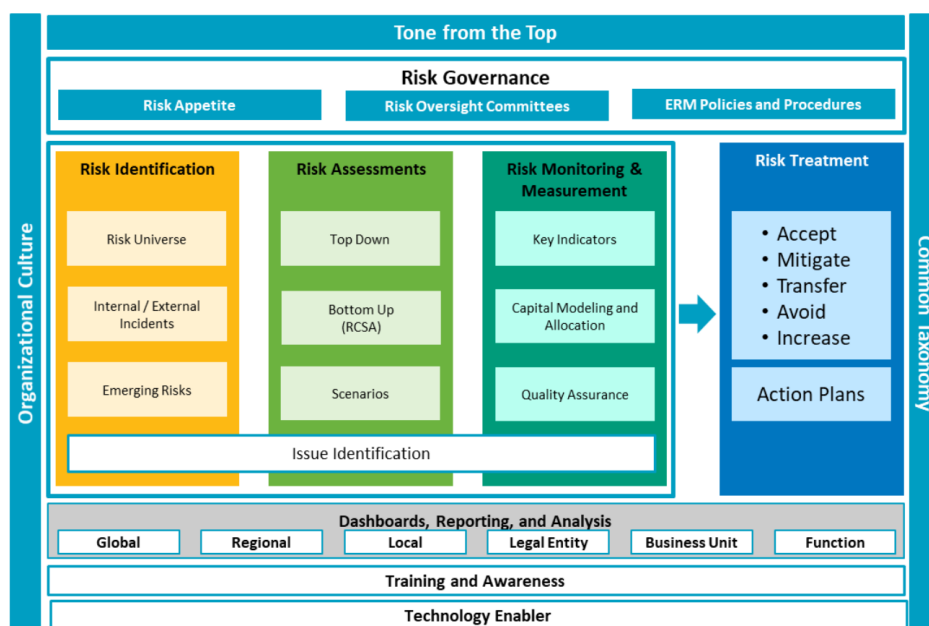
Nasdaq Clearing deploys a proprietary capital-at-risk calculation model and system (CCaR) which serves as the main driver in establishing an appropriate level of default fund and the overall clearing capital. Resources to cover for counterparty defaults, i.e. the Waterfall, consist of prefunded resources provided by Nasdaq Clearing and by its members. The detailed structure of the financial Waterfall is available on [Nasdaq Clearing's website](#) and in the Rules & Regulations (R&R).

To ensure that adequate capital resources are maintained, Nasdaq Clearing re-evaluates the size of its capital and member-contributed default funds on a monthly basis. The stress tests are calculated and monitored on a daily basis by Clearing Risk Management. Members' exposure towards Nasdaq Clearing is limited and the potential losses and liquidity shortfalls are transparent, measurable, manageable, and controllable.

2.2. BAU for non-default risk events

Nasdaq Clearing defines non-default risk as the exposure to adverse consequences arising from internal or external changes, actions, events, decisions and/or circumstances that have the potential to reduce shareholder value. Examples of non-default events are cyber attacks, critical system outages or investment losses.

Nasdaq Clearing's continuous and iterative ERM Framework comprises of activities and methods that support timely, transparent, and well-informed management decisions to accept, mitigate, transfer, avoid, or increase risks. Each ERM Framework component yields insights that inform risk-management reviews and lead to further improvements.



2.3. Default management process and procedures

Default situations due to clearing members not having met their end-of-day margin requirement, default fund requirement or intra-day margin call requirement two hours past the deadline, will be escalated directly to the Default Committee, while other situations of potential member non-compliance with Nasdaq Clearing’s requirements might first be escalated to the Credit Committee and then handed over to the Default Committee, if the situation is assessed as a default event.

The Default Committee is the single decision-making authority within Nasdaq Clearing, for evaluating default events and default situations and to determine which, if any, actions will be taken as permitted under the R&R as well as any other applicable legal requirements. In accordance with the Nasdaq Clearing Recovery Plan, the Recovery Committee may be called upon to manage some of the decisions in relation to a default event. The Default Committee convenes when a default event has, or is likely to, occur. The tasks of the Default Committee include:

- the declaration of default of a counterparty on the basis of a breach or anticipated breach of the R&R, or due to the counterparty no longer being considered to be suitable as a member;
- decisions on actions to be taken in case of a default to minimize the risk of financial losses; and
- the measures to be taken to communicate the default event.

Rules governing a clearing member or customer default are set out in Nasdaq Clearing Rules & Regulations. More detailed information regarding Default process and procedures is available in [Nasdaq Clearing’s Default Management website](#).

3. Recovery

3.1. Recovery Indicators

Recovery indicators define the moment in time when Nasdaq Clearing shall start to consider whether the Recovery Plan should be activated and determine, which specific recovery options (if any) it may need to apply in reaction to the actual situation that has materialized.

Therefore, to avoid undue delays in the implementation of the Recovery Plan and to clearly define when a situation should be escalated, indicators and their thresholds are classified, as indicated below:

Early Warning Indicators: indicators that provide early warning for recovery actions. An example of early indicator could be: (i) Failed first auction of the defaulting members portfolio (default event) or (ii) central counterparty clearing for one or more of the Nordic markets critical products are halted for 4 hours or more (non-default event).

Early warning indicators are escalated in the following way:

Indicator breach due to default event shall be immediately escalated to the Default Committee (DC); Indicator breach due to non-default event shall be immediately escalated to the Nasdaq Clearing Risk Committee (NCRC); Indicator breach due to combined event shall be immediately escalated to the DC. Further escalation would depend on the DC/NCRC decisions. If the relevant committee deems it necessary, the early warning indicator will be escalated to the CEO of Nasdaq Clearing. The CEO of Nasdaq Clearing shall summon the RC to handle the matter, in such instance.

Recovery Indicators: indicators that signal the move from BAU risk management to Recovery . An example of recovery indicator could be: (i) Failed Second Auction of the defaulting member's portfolio (default event) or (ii) central counterparty clearing for one or more of the Nordic markets critical products (as defined in Section 6.1 of the Plan) are halted for 12 hours or more. (non-default).

Indicator breach due to default, non-default or simultaneous default and non-default event shall be immediately escalated to the CEO of Nasdaq Clearing, who shall convene the RC.

3.2. Recovery Tools

Guided by the recovery indicators and depending on the specific recovery scenario, the Recovery Committee would need to evaluate the occurred stress event, select and recommend appropriate Recovery Tool(s) to the Nasdaq Clearing Board as, in some cases, a single Recovery Tool may not be sufficient to meet the recovery objectives of Nasdaq Clearing.

In general, Nasdaq Clearing's available Recovery options for the implementation of the Recovery Plan are classified as Recovery Tools designed to address default losses (i.e., liquidity shortfalls caused by member defaults) and tools applicable to govern default losses (i.e., investment losses, cyber attack, loss of key business area, etc.). In a default event, potential default losses would be initially absorbed through the waterfall of Nasdaq Clearing.

The appropriateness of a given Recovery Tool varies based on the particular recovery scenario and its individual circumstances. The following Recovery Tools are implemented by Nasdaq Clearing to utilize:

Recovery Tool	Description of the tool	Default/Non-default events
1.	<p>Assessment Power</p> <p>The clearing members are under a Guarantee Commitment (Assessment Power) whereby they are obliged to pay Nasdaq Clearing an amount up to 100% of their original Default Fund contribution as a means to allocate any uncovered default losses. This is in addition to the requirement for clearing members to replenish Default Fund resources consumed in a default up to an amount corresponding to 130% of their original Default Fund contribution.</p>	Used in default event
2.	<p>Own Resources</p> <p>Nasdaq Clearing uses its own available resources to cover liquidity/capital shortfall. Nasdaq Clearing has a self-imposed buffer of 5% of the total Article 16 capital including the notification buffer. In addition to the Article 16 capital, Nasdaq Clearing also needs to have a capital buffer of at least 33% of the total Nasdaq Clearing pre-funded capital, the capital buffer is referred to as "Non-regulatory tangible equity".</p>	Used in non-default event or default event that simultaneously causes a default loss and a non default loss
3.	<p>Partial Tear-up</p> <p>Partial Tear-Up shall serve as a last resort tool for reaching a balanced book. Partial Tear-up may only be used after at least two failed default auctions. The price(s) used in Partial Tear-Up will be determined at the discretion of Nasdaq Clearing with the objective of reflecting the market price(s).</p>	Used in default event
4.	<p>Minimum Cash Collateral</p> <p>Clearing members may be required to hold a minimum cash collateral (amounts are decided at the discretion of Nasdaq Clearing) referred to as Locked Currency Limit in the Nasdaq Clearing Rules and Regulations.</p>	Used in default event and non-default event

5.	New or increased credit line to Nasdaq Clearing	<p>Nasdaq Clearing established an additional credit line. New credit line providers will have to meet certain criteria and requirements. The rating of the bank providing the credit line must have a rating of A- (S&) or A3 (Moody's) or higher.</p> <p>The committed credit line should provide Nasdaq Clearing with at least 7 days of credit and furthermore be remote from the financial performance of the Nasdaq Group.</p>	Used in default event and non-default event
6.	FX Swaps	<p>In order to fulfill a liquidity shortfall in one currency Nasdaq Clearing can execute FX transactions to exchange one currency with a liquidity surplus, for another. Such FX transaction shall be currency hedged with authorized counterparties with whom Nasdaq Clearing has ISDA agreements in place. The hedges shall not have a maturity longer than one month.</p>	Used in default event and non-default event
7.	Insurance	<p>Nasdaq Clearing is covered by a Corporate Insurance Program that provides coverage globally for all wholly owned subsidiaries in order to protect all operations from third party liability, professional liability arising out of errors and omissions, data breaches, cyber-attacks, etc.</p>	Used in non-default event
8.	Voluntary Cash Call	<p>This Recovery Tool is used when there are uncovered default losses remaining after the Assessment Power cash call has been fully utilized. Members will be entitled to vote, with the number of votes proportionate to their respective share of the Default Fund. If the votes are in favor, all non-defaulting members will provide one additional contribution (i.e., an amount up to 100% of their original DF contribution) and Nasdaq Clearing will contribute up to one additional SiTG (Junior Capital) and one additional 2nd SiTG (Senior Capital).</p>	Used in default event

3.3. Recovery Events

Taking into consideration its business essence and environment in which it operates, Nasdaq Clearing has identified the following recovery scenarios, which might cause financial losses beyond business-as-usual capacity and/or might prevent Nasdaq Clearing from being able to provide its critical functions during prolonged time periods. The scenarios take into consideration default and non-default events, which might be driven by various risk sources to which Nasdaq Clearing is exposed,

These scenarios are low-probability events that may severely affect the financial soundness or operational viability of Nasdaq Clearing, if recovery measures were not implemented in a timely manner.

	Default Event	Non-Default Event
Capital Shortfall	Default of member(s) leading to an unmatched book for the CCP and/or losses above the prefunded waterfall	Non-default losses (e.g. operational loss) leading to the CCP not fulfilling its regulatory capital requirements
Liquidity Shortfall	Default of member(s) leading to the CCP failing to fulfill its payment obligations	Non-default event (e.g. collateral structural changes) leading to the CCP failing to fulfill its payment obligations

3.3.1. Default and non-default Capital Shortfall

- Capital shortfall from default event

The mitigation of the default risk of market participants is the core purpose of the CCP. The counterparty risk that exists in normal market activities is mitigated by ensuring that sufficient resources are held by the CCP and that the rules governing the interactions between the CCP and its members are suitably robust. Despite that, Nasdaq Clearing could experience a stress scenario where one, or several participants have been declared to be in default. In the event of default, ordinary default management process would be initiated, but if ordinary measures and resources designed to cover counterparty default losses, i.e. the Waterfall, are insufficient (or potentially would be insufficient), the recovery process would be activated to handle the default event.

- Capital shortfall from non-default event

Capital shortfall leading to a recovery situation, could be also caused by extreme yet plausible non-default events. Such events could include:

- cyber attack on Nasdaq Clearing
- loss of key staff which would affect operational viability of the CCP (e.g., natural disaster)
- business disruption from external event (e.g., fire at the primary data center used by Nasdaq Clearing)
- critical system outage
- general economic macro event (e.g. hyperinflation or effects of exaggerated central bank interventions).

3.3.2. Default and non-default Liquidity Shortfalls

- Liquidity shortfall from default event

Liquidity shortfall events primarily arise when the default of a clearing member requires the CCP to liquidate collateral in order to meet the variation margin obligations to the non-defaulted members. The CCP may have problems in liquidating collateral quickly enough even though it has sufficient financial resources to cover the necessary liabilities.

- Liquidity shortfall from non-default event

One of the key components in the ability to meet current and future obligations of Nasdaq Clearing is the liquidity planning, which is supported by liquidity stress testing. A simulated shortfall of liquidity could thus materialize before any actual shortfall occurs and be of such magnitude, developing at a rapid pace, or have other characteristics that could be difficult to manage within Nasdaq Clearing's normal routines and thus could eventually lead to a recovery situation.

3.4. Governance of the Recovery Process

Nasdaq Clearing's Rules & Regulations (R&Rs), together with the membership agreements (with these reflecting the Recovery Plan as relevant), constitute the contractual framework governing the relationship between Nasdaq Clearing and its participants. The effectiveness of the recovery and resolution tools is, inter alia, dependent on the enforceability of the R&Rs.

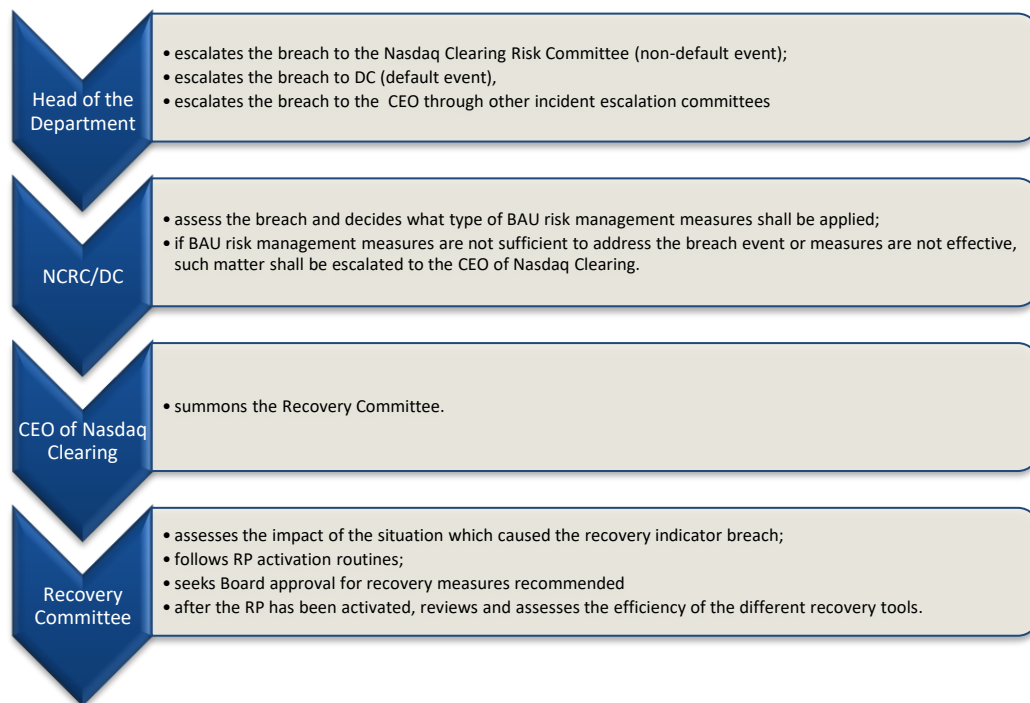
The Nasdaq Clearing Board of Directors has legal responsibility for major decisions related to Nasdaq Clearing and will have oversight of, and provide approval for activation of, the Recovery Plan. The Nasdaq Clearing Board has delegated its responsibility to monitor and oversee the Recovery Plan to the Chairman who has an ultimate responsibility for keeping the Recovery Plan up-to-date.

The Chairman of the Board has delegated the responsibility to review, update and maintain the RP to the CEO of Nasdaq Clearing who is also responsible for initiating and reviewing the Recovery Plan and providing it for the Nasdaq Clearing Board’s review and approval.

3.5. Activation of Recovery Plan

The Recovery Plan is activated once a default, non-default event or combination of both has been escalated. The escalation is processed according to the governance structure set by Nasdaq Clearing to the Recovery Committee.

In the event of a breach of the recovery indicators, the following escalation routines shall be applied:

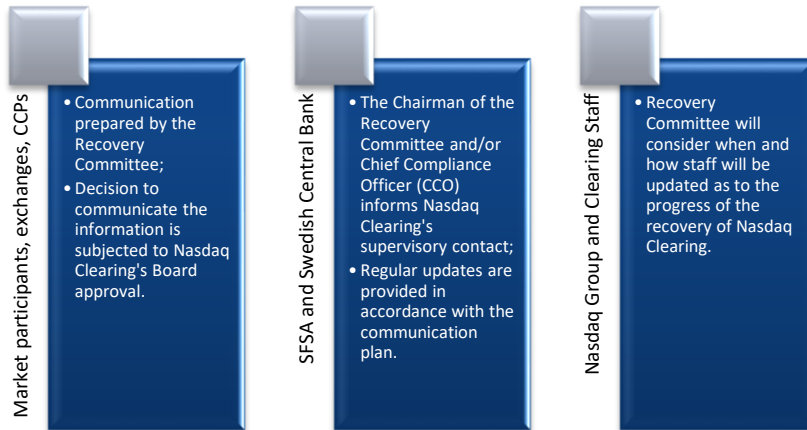


Where the Recovery Committee decides not to activate the Recovery Plan, the Recovery Committee may select and assign a set of measures to be used, or action to be taken in order to mitigate the situation which caused the indicator breach. The use of recovery measures is also subject to the Swedish Financial Supervisory Authority (“SFSA”) not requiring Nasdaq Clearing to refrain from taking that measure.

3.5.1. Communication regarding Recovery Plan activation

Nasdaq Clearing recognizes the importance of appropriate communication and the need to have a disclosure plan for use during the activation of the RP.

The following parties are contacted in the event of the RP activation:



4. Resolution

The CCP Recovery and Resolution Regulation gives resolution authorities powers and tools intended to ensure the continuity of essential services and to manage the failure of a CCP in an orderly way. The resolution tools include position and loss allocation tools, a sale of business tool and a bridge CCP tool. Riksgälden, the Swedish National Debt Office (“SNDO”) has been assigned the role of Resolution Authority. The role of Resolution Authority includes the following:

- SFSA is required to notify SNDO of notifications received regarding the recovery measures of Nasdaq Clearing;
- SNDO is responsible for assessing the recovery plan to identify measures that may adversely impact the resolvability of Nasdaq Clearing (and advise the SFSA on these);
- Responsible for drawing up resolution plan for Nasdaq Clearing;
- Generally has the power to require cooperation and the provision of information from Nasdaq Clearing for this purpose;
- Has general powers to require Nasdaq Clearing to remove impediments to resolvability;
- Implements resolution measures where: (i) Nasdaq Clearing is failing or likely to fail; (ii) there is no reasonable prospect that any solution other than resolution action would prevent the failure of Nasdaq within a reasonable timeframe; (iii) a resolution action is necessary in the public interest to achieve resolution objectives where normal insolvency would not meet those objectives to the same extent.

Appendix 1. Overview of Recovery Scenarios

Scenario Type (ESMA Guideline):	Type of risk ¹	Recovery Scenarios Covered in the Plan (Appendix C)
1. Default event causing financial losses that propagate through the CCP's default waterfall with return to a matched book through voluntary, market-based tools	Financial	
2. Default event causing financial losses with a default management process that requires mandatory, rules-based arrangements in order to re-establish a matched book.	Financial	C.3) Default of Clearing Members in COM C.4) Default of Clearing Members in FIN
3. Non-default event preventing the CCP from performing its critical functions	Operational	C.5) Loss of Key Staff C.6) Critical System Outage
4. Non-default event causing financial losses	Financial and Operational	C.7) Cyber Attack
5. Default event causing a liquidity shortfall	Financial	C.8) Defaults of Members causing a liquidity Shortfall
6. Non-default event causing a liquidity shortfall	Financial	C.9) Liquidity Shortfall due to Structural Changes
7. Event(s) causing simultaneous default and non-default losses	Financial	C.10) Default of Clearing Participant acting in multiple roles C.11) Macroeconomic event leading to a housing market collapse

¹ Level 1 risk category according to Nasdaq Clearing's risk taxonomy

Appendix 2. List of Rulebook References

Nasdaq Clearing Financial Derivatives rules	https://www.nasdaq.com/solutions/rules-regulations-derivatives-rules
Nasdaq Clearing Commodities Derivatives rules	https://www.nasdaq.com/solutions/legal-framework-european-commodit
Default Fund rules	Appendix 16 of Financial Derivatives rules Appendix 9 of Commodities Derivatives rules