

NZCDC Recovery Tools

Consultation Response Paper

July 2023



CONTENTS

Introduction	4
Background	4
What is the purpose of this response paper?	4
What are the next steps?	4
Questions	5
Executive Summary	6
Summary of submission feedback	6
Material changes since the second consultation	6
Consideration of submission feedback	7
Default management and auctions	7
Use of Auctions	7
Order of default waterfall resources	7
Liability for default	9
Default period	9
Exclusion request process	9
Operation of the recovery tools	10
Offsetting transactions	10
Variation Margin Gains Haircut	10
Emergency Assessments	11
Termination	11
Final Payment Reduction	11
Changes to the Participant or Derivatives Rules	11
Replenishment and reimbursement	12
Replenishment	12
Reimbursement	12
Close out netting	12
Other feedback	13
Passing loss to clients	13
Default management processes	13
Capitalisation of the clearing house	14
Regulator crisis management powers and external guidance	14
Appendix A: FAQs on the Consultation	15
Appendix B: Rule changes	22



This consultation response paper has been prepared by NZCDC to provide transparency to the market of NZCDC's consideration of the submission feedback that NZCDC received through its consultation relating to the introduction of Recovery Tools that commenced in December 2022.



Introduction

Background

New Zealand Clearing and Depository Corporation Limited (**NZCDC**) is further maturing its risk management arrangements in line with regulatory expectations. This includes the completion of a recovery plan and introduction of additional recovery tools into the New Zealand Clearing Limited: Clearing and Settlement Rules (**Rules**) and Procedures. The tools will ensure that the clearing house operated by NZCDC (**Clearing House**) has arrangements in place relating to recovery, that are consistent with its obligations under the Financial Market Infrastructures Act 2021 (**FMI Act**).

NZCDC has been formally and informally consulting with the market on the introduction of recovery tools since 2019. Most recently, a formal consultation paper was published in December 2022 outlining the proposed final design of the recovery tools and the operation of such tools.

NZCDC received good engagement on the consultation, receiving responses from both current and potential clearing participants. Participants have been very engaged throughout the years of consultation on this and we would like to thank those who contributed to the development and design of the tools.

What is the purpose of this response paper?

We have now considered the submission feedback received through the consultations and have conducted further international benchmarking in some areas.

This response paper is designed to provide transparency to the market of NZCDC's consideration of the submission feedback. To assist, a composite mark-up of the Rules and Procedures against the current Rules and Procedures, as well as a cumulative mark-up against the Rules and Procedures consulted on, accompany this response paper.

We are not seeking further submission feedback.

What are the next steps?

The views expressed in this paper will form the basis for an application to the FMA and RBNZ (together the **Joint Regulator**) for non-disallowance of Rule changes which creates the legal mechanism for implementing the recovery tools. This non-disallowance is a requirement of NZCDC's designation as a Settlement System.

Once the Joint Regulators have determined whether to provide non-disallowance of the amendments to the Rules, the changes will be announced to the market, alongside an effective date. This is likely to occur in Q4 2023.

We will provide finalised mark-up versions of the Rules and Procedures when we provide notification to the market of the Rule changes. Additionally, an external recovery plan will be provided prior to the Rules becoming effective.

Questions

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Executive Summary

Summary of submission feedback

Submitters supported the NZCDC's focus on improving the risk management framework for New Zealand Clearing Limited to utilise as the specified operator of the Clearing House and noted that the tools being proposed generally aligned with those seen in central counterparty clearing houses (**CCPs**) internationally. There was limited feedback on the operation of the tools. Where there was feedback on the details of the operations of the tools, this was often varied across participants, and there was no one clear view on market practise.

Submitters provided a range of valid feedback on the default management processes for the New Zealand Clearing Limited. These are being considered separately to the introduction of recovery tools, as a part of the maturing of the default management processes of the clearing house.

Finally, submitters provided general comments on the risk management of the Clearing House, including the overall resources. Submitters had varied views on the default waterfall structure for both the cash and derivatives market, including the order and type of resources available through those waterfalls.

Material changes since the second consultation

The main changes to the design of the recovery tools from the second consultation are to the:

1. resignation process and rules; and
2. close out netting rules.

The exclusion request process that was contemplated in the consultation has been replaced by amendments to the current resignation rules.

Additionally, technical changes have been made to the close out netting rules to ensure these are appropriate for international banking regulatory capital requirements and meet the regulators expectations.

Finally, a specific rule has been added referencing the power the regulator may have under the FMI Act 2021, should the NZCDC settlement system (which includes the Clearing House) be designated as a "systemically important" Financial Market Infrastructure under that Act, and should that settlement system become distressed.

As there was limited feedback on the operation of the recovery tools, minimal change has been made to the proposed arrangements.

In general, the feedback received on the consultation focused more on general risk management of the Clearing House. As a result of this more general feedback, we are also committing to:

1. Discussion with the Joint Regulator on the introduction of a Risk Management Advisory Group, in replacement of the current Participant User Group
2. Review of the default management processes and procedures for the Clearing House and testing of these with participants



3. Investigating the introduction of a cash market default fund (which would require further consultation with the market)
4. As part of any cash market default fund introduction:
 - a. the restructure of the default waterfalls for the cash and derivatives markets; and
 - b. review of the emergency assessment sizing
5. Consideration of a framework for auctions in the derivatives market should we see growth in the market, such that the number of participants and value being traded on these markets made auctions viable
6. Consideration of the general resignation provisions, specifically considering reducing the length of time for resignation, and the alignment of provisions across rule sets

Given the lack of maturity in NZCDC's current recovery tools and processes, we plan to continue with the implementation of the tools, to bring these up to the required standard before we address the additional matters.

Consideration of submission feedback

This section of the paper provides more detail of the submission feedback received and NZCDC's consideration of that feedback.

Default management and auctions

Use of Auctions

In the consultation, we noted that the clearing house proposed not to introduce auctions as part of its default management procedures, on the basis that the number of participants in our markets would result in the auctions being unsuccessful. Instead, we propose to use pre-appointed brokers to close out positions on market or through negotiated deals, or to close out the position, as per the Rules.

Submitters had differing views on the need for auctions in the market, though it was noted that there was a high implementation cost for both the Clearing House and participants. Submitters in the cash market were not supportive of auctions for that market. We support this view, given the short settlement period for this market.

There was divided view on auctions for submitters in the derivatives market. The core reason provided for requiring auctions was for the Clearing House to be able to confirm it received a fair price for a portfolio. In a market where there is limited participation and liquidity, there is no assurance that an auction will provide this best price. As noted above, we therefore propose to consider reviewing the introduction of auctions, should there be an increase in the number of participants or liquidity in the derivatives market.

Order of default waterfall resources

The consultation set out the default waterfalls for the cash and derivatives market. We received a range of feedback on the proposed default waterfalls, with there being no consistent market view on a preferred structure.

In general, the submitters supported skin in the game (**SITG**) being provided by NZCDC, NZCDC providing junior risk capital, and having layers of capital in the default waterfall.



Two submitters commented on the junior risk capital. One submitted that the Junior Risk Capital should be increased the value, and the other submitted it should align with the value of the default fund (which would, as a starting point, decrease the value of the junior risk capital).

Submitters sought clarity that there was separation of the default waterfalls for the cash and derivatives markets, and that participants who participate in one market, could not have their contributions used in a default on another market.

One submitter requested that senior risk capital be moved so that it would be used prior to member’s assessments in the default waterfall.

Based on the modelling and skin in the game the Clearing House is already contributing, we consider no change is required at this time. We have reviewed default waterfalls of CCPs globally. There appears to be no consistent structure, outside of having layers of capital, some of which is contributed by the CCP and some of which is contributed by participants. This lack of consistent structure aligns with the different views we received from submitters on our approach.

Currently, the capital contributed by NZCDC is significant as an overall percentage of the capital required by the Clearing House, compared to global CCPs SITG as outlined in the table below (noting ASX is an outlier in this regard). The Junior Risk Capital is set at \$10 million for each of the cash and derivatives market. Participants do not contribute default capital for the cash market, and the proportion of default capital contributed by NZCDC for the derivatives market – ranges from 25% to 100% of the default risk capital, depending on the size of the default fund.

Skin in the game as a percentage of clearing member resources, Q4 2019 quantitative disclosure date¹

CCP	Country	SITG as % of CM resources
Average EU CCPs	EU	2.7%
CC&G	IT	0.3%
Eurex	DE	5.5%
EuroCCP	NL	1.9%
LCHSA	FR	0.7%
International CCPs		
CME US IRS	US	4.2%
LCH Ltd Swapclear	UK	0.80%
ICEU F&O	UK	5.7%
ICEU CDS	UK	3.7%
ICE US F&O	US	10.26%
ICE CC CDS	US	1.89%
ASX Clear Futures	AU	60.00%
LME	UK	2.37%
JSCCC IRS	JP	1.4%

¹ 12 July 2021, ESMA Consultation paper, Draft RTS on the methodology for calculation and maintenance of the additional amount of pre-funded dedicated own resources (Article 9(1) of CCPRRR)



The default waterfall has been designed to model that there is a capital available, as junior risk capital, to the cash market and derivatives market. Default fund contributions by non-defaulting participants in one market are not available to be used for the default in another market.

We do not propose to move the senior risk capital contribution at this time, to ensure to the extent possible that the SITG is segregated between the cash and derivatives market. Moving the senior risk capital sooner would increase the likelihood that capital is used (noting it is still extremely unlikely to be used, as the default would need to go beyond the risk model). Increasing the likelihood that the senior risk capital is used, increases the likelihood it is not available to support the market that has not had a default. This is especially true for the cash market, as there is no default fund providing member contributions between the junior risk capital and further layers of default capital.

Instead, we commit to reviewing the structure, including the layers and order of capital, as part of a consultation on a default fund in the cash market.

Liability for default

Default period

In the second consultation, we proposed a default period of up to 25 business days. We received conflicting feedback in terms of whether the default period was too long or appropriate. No submitters considered the period was too short. On balance, and having reviewed the default periods of other CCPs, we have determined to retain the proposed period, being 15 days if there is one default, with the ability to extend once by another 10 days, if there is another default in the first 15-day period.

Exclusion request process

The second consultation proposed an "Exclusion Request" process so participants who wanted to resign, but had not yet completed the process, could be excluded from the replenishment of a default fund following a default. This was to allow participants to cap their potential liability to the clearing house under banking regulatory capital rules.

Feedback from submitters was that this mechanism needed to be in the Rules to be effective. We therefore propose to introduce new resignation rules, related to a default scenario only. These rules provide clear conditions for resignation during a default period. The Clearing House will be required to accept a participant resignation once the conditions are fulfilled, within a shortened timeframe that that which applies to resignation in a non-default scenario.

One submitter raised concerns that this process could create an "easy out" in a turbulent market. However, we consider the conditions and process aligns with other CCPs internationally, and we note that the clearing house must accept that the conditions have been met before a resignation can be effective.

As clearing participants are also required to be depository participants, these rules have been translated to the New Zealand Depository Limited: Depository Operating Rules. These changes are limited to only cover clearing participants resigning their depository participation, in the scenario where there has been a participant default in the clearing house.

Additionally, we propose to commit to reviewing and consulting on the standard resignation



provisions of the rules, in due course, following feedback that the timeframes in these need to be shortened to align with international expectations.

Operation of the recovery tools

The second consultation set out the details of the following proposed recovery tools:

Recovery Tools	
Cash market	Derivatives market
Offsetting transactions	Variation Margin Gains Haircut
Termination (partial or complete)	Termination (partial or complete)
Emergency Assessment Power	Emergency Assessment Power
Final Termination Haircut	Final Termination Haircut

The consultation included details for each tool of: the applicable market; the affected participants; the trigger point for use; the timeline for delivery; the allocation method; the communication participants could expect; and the impact on end clients.

For the majority of tools, and specifically the operation of the tools, the feedback received was limited and often from one submitter only. On consideration of the feedback received and comparison to the operation of the tools in other CCPs, we consider the tools as outlined in the consultation, operate appropriately to achieve the outcomes desired. Therefore, limited change is proposed, as outlined below.

Offsetting transactions

The consultation proposed the introduction of an Offsetting Transaction tool for the cash market. An Offsetting Transaction allows the Clearing House to manage a liquidity scenario where it does not have enough money to pay settlement obligations owing on the cash market, due to a clearing participant failing to provide cash to the Clearing House.

One submitter noted the timeline to complete offsetting transactions could be reduced further to get the market back to a comfortable position. Given the proposed timeframe (up to 3 business days) is already short compared to a stock failure (being up to six business days), we propose no change.

Variation Margin Gains Haircut

The consultation proposed the introduction of a Variation Margin Gains Haircut (VMGH) tool for the derivatives market. VMGH allows the Clearing House to manage a liquidity scenario where it does not have enough money to pay mark to market settlement obligations owing on the derivatives market, due to a clearing participant failing to provide cash to the Clearing House.

One submitter requested we further limit the use of this tool to an amount, rather than the number of days. On review of other clearing houses, only two clearing houses use such a cap, and it is in relation to OTC markets (being Shanghai and LCH). As any further limitations would limit the effectiveness of the tool, we propose no change.



Emergency Assessments

The consultation proposed the introduction of an Emergency Assessment tool for all markets. Emergency Assessments allow the Clearing House to manage scenario where the Clearing House does not have enough money to complete settlement, and either needs to deliver cash to the market or buy securities to meet market obligations.

In the cash market, submitters suggested that the split of risk in the size of emergency assessments was not appropriate (on the basis that the maximum size of emergency assessments from all participants equaled \$10m, which was the same size as the Clearing Houses junior risk capital). We consider the sizing is appropriate, noting the Clearing House has significant SITG as a percentage of overall capital, compared to international peers. Further, the Clearing House capital is earlier in the waterfall and is at greater risk. As noted above, we commit to reassess this if there is a proposal to introduce a default fund for the cash market.

There was no other feedback on the operation of the Emergency Assessments and therefore no change is proposed.

Termination

The consultation proposed changes to the current Termination powers in the Rules, and further information on how the termination price will be determined. The consultation set out two types of Termination:

1. Partial Termination - Terminating the positions included in the defaulting clearing participants' portfolio; and
2. Complete Termination - Terminating all positions in the market.

No feedback was received on the operation of the termination processes for Partial or Complete Termination, and therefore no change is proposed.

Final Payment Reduction

The consultation proposed the introduction of a Final Payment Reduction tool for all markets. Final Payment Reduction allows the Clearing House to manage a scenario where it does not have enough capital to make final payments to clearing participants, following termination. This will generally only be where the termination price has not been able to be absorbed, due to it being based on the market price rather than the original trade price or previous settlement price.

No feedback was received on the operation of the Final Payment Reduction tool, and therefore no change is proposed.

Changes to the Participant or Derivatives Rules

No additional changes to the Participant or Derivatives Rules were identified through the consultation process.



Replenishment and reimbursement

Replenishment

The consultation outlined the process for replenishment of default capital used to cover previous default losses, to allow the Clearing House to continuously provide services. Details were included of: who would be required to participate; how the amount would be set; communications participants could expect to receive; and the timeline.

One submitter expressed support for the default fund not being able to be replenished during a default period, and that a replenished default fund can only be used for future defaults. To provide ex-ante certainty of these matters, changes have been proposed to address these two matters, to the default fund requirements in the Procedures.

Reimbursement

Recovery from a defaulting clearing participant will be used to reimburse to relevant parties who have experienced default losses. The consultation set out: what cash would be considered as available for reimbursement; how reimbursements would be allocated; and the order for reimbursement. One submitter requested clarity regarding the communication in a reimbursement scenario. Further details will be included in the external recovery plan and include: confirmation of reimbursement available; details of allocation method; amount to be received; and expected payment date.

Close out netting

The consultation proposed the introduction of “close-out netting” rights into the Rules. Close-out netting allows a clearing participant to offset the amount payable versus the amount receivable to the Clearing House in a Clearing House default or liquidation. This reduces a clearing participant’s liability, as they may otherwise face an ongoing replacement loss for all receivables. It also provides clearing participants certainty of when they will be able to close-out of positions, in a Clearing House default scenario. New Zealand legislation allows for close-out netting rights, but the rights must be included in individual rules of a financial market infrastructure, such as the Rules.

The consultation provided details of when close-out netting would apply (being either on a Clearing House default or liquidation); how participants could exercise the rights; and the process of applying close out netting once the right had been exercised.

Technical feedback was received, largely from one submitted and also from the Joint Regulator, on the application of close-out netting. This feedback focused on the regulatory capital requirements of banking regulation that apply to capital held at, and liability to, a clearing house. The following technical requirements have been made to the proposed close-out netting provisions:

- Providing participants a right to exercise close-out netting in a Clearing House insolvency, rather than this being automatic
- Amending the timeframe before notice of close-out netting can be given in a Clearing House default from 30 days to 15 business days, to align with the participant default



period while taking into consideration that participants will be carrying risk over this period

- Clarifying when insolvency is deemed to have started, to include at the commencement of proceedings that result in an insolvency determination (consistent with international practice) which acts as the trigger for the close-out netting right
- Amending the Rules wording from "cancellation" of transactions to "termination", to reflect that participants are not returned to the position they were in before entry into the transaction
- Clarifying that the Clearing House can terminate all transactions if a participant exercises its close out netting rights
- Amending the set off process so there is one amount per participant's house account and one per participant's customer accounts, to reflect obligations to treat house and client assets separately, and allowing for set off to include the assets held at the Clearing House (including collateral and default fund contributions)
- Allow those participants without open transactions to be a part of the close out netting process (to allow them to set off any assets held with us and remove access from Clearing House)
- Introducing penalty interest for both the clearing house and participants, for any unpaid amounts at the end of the close out netting process

Other feedback

Passing loss to clients

Submitters queried the extent NZ RegCo would determine what haircuts could be passed to clients, and potential impacts on client assets and obligations. We propose it remains appropriate that each clearing participant individually considers how it would manage loss with end clients. Feedback from the first consultation on this matter was mixed and indicated there was not an agreed market view on passing loss on to clients.

As outlined in the consultation, clearing participants are not expected to account for future possible Emergency Assessments in their capital adequacy calculations.

Default management processes

Questions were raised from submitters on the Clearing House default management processes, including our process to select brokers to sell portfolios for the Clearing House.

Specific feedback included:

- The use of default clearer, who is available to step in and cover positions, rather than using the buy-in procurement process
- Separating trading participant transactions from a clearer's own transactions, for a third party clearer
- Clarity of the use of default brokers, and the process to close out positions of the defaulting participant

The feedback is useful and will be considered in our default process development and testing. We expect to involve participants in that testing in 2024.



Capitalisation of the clearing house

One submitter noted that NZCDC is wholly owned by NZX Limited, questioned the ability for NZX to provide further capital to NZCDC in the situation where the default capital was completely depleted, and queries the risk participants are carrying compared to NZX's shareholders. The submitter noted concerns that in a multiple default NZX capital could be completely depleted.

Capital held by the clearing house is held separate to that of NZX Limited. We are comfortable that current capitalisation of the Clearing House remains fit for purpose, based on the current risk model and analysis from that model that is completed on a daily basis. The Clearing House is subject to clear regulation on how much capital it is required to hold and this is tested on daily and reported to the regulator on a monthly basis. Additionally, the default capital model has been independently reviewed, the results of which have been provided to the Joint Regulator.

Our analysis also shows that the amount of risk is more heavily allocated to the Clearing House compared to other jurisdictions. The capital funded by the Clearing House in the default waterfall is more significant as a percentage of the total requirement, than in other jurisdictions. Further, with no default fund in the cash market, there is no default capital funded by participants, except where individual participants are required to provide additional initial margin (which is limited to use in that specific participant's default). As a result, the Clearing House's capital is more likely to be used in a default, than in other jurisdictions.

The risk relating to depletion of capital and ability to raise additional capital is true across all markets where unlikely stress events may use resources beyond that required under the risk model. It is accepted practise that it is not efficient to hold additional capital for such unlikely events.

While the risk framework will undergo continuous development, there has been no identified material risk in relation to current margin or default capital frameworks, and therefore it is appropriate to continue with the momentum to mature the recovery aspect of the framework.

Regulator crisis management powers and external guidance

The Joint Regulators have requested that the crisis management powers provided under the FMI Act are appropriate reference in the recovery tool rules, in line with international best practise to provide clarity and awareness of the existence of the powers. A new Rule, 11.8.6, has been added to the proposal, to provide clarity in the Rules the powers the regulator has if a settlement system becomes distressed and that the recovery tools do not limit those powers.



Appendix A: FAQs on the Consultation

Why are we proposing additional recovery tools?

In the International Monetary Fund's Financial Sector Assessment Programme report from May 2017, the IMF reported that New Zealand's Financial Markets Infrastructures required reform to get it on par with international standards.

The IMF recognized that proceeding with the proposed regulatory reforms would make New Zealand better aligned with international standards. These regulatory reforms are being effected through the Financial Markets Infrastructures Act, which is currently in the implementation process. The Act requires financial market infrastructures to have a recovery plan (defined as a contingency plan in the Act) that is comprehensive, adequate and credible and includes financial recovery tools.

The additional recovery tools and clarifications to the deployment of existing Rulebook powers are the outcome of this regulatory requirement. They are by design developed to avoid moral hazard created by the perception of clearing houses being "too big to fail" and the associated government / taxpayer bailouts. The recovery tools have been developed by international regulators with assistance from global clearing houses. Many overseas jurisdictions have already or are in the process of putting in place similar arrangements at their CCPs.

Following the global financial crisis, settlement through CCPs was recognised as a key practice to reduce market default risk, improve transparency and avoid potentially serious outcomes that had been experienced through the crisis.

CCPs centralise and reduce systemic risk, through netting and their risk management models. However, there is an expectation that CCPs and their clearing participants collectively will bear the risk of an event of default and will not turn to the government in the event of a participant default scenario that stresses the CCP beyond its extreme but plausible risk modelling.

How do the recovery tools fit into the existing risk management framework for the clearing house?

Risk management frameworks for clearing houses are generally defined in three layers:

1. Accreditation and ongoing compliance of participants, to reduce the probability of a default;
2. Margin frameworks for the risk of loss from a participant default in 'normal' market conditions (typically able to withstand adverse price movements 99% of the time); and
3. Default management of a participant default in extreme but plausible market volatility, (typically supported by CCP capital and the clearing participants) and recovery for a Participant default in a beyond extreme but plausible market.

Given the extreme low probability, recovery events were previously often not explicitly covered in detail in CCP Rulebooks although there were many general emergency powers that could be used in such circumstances. Post GFC, international market expectations rose including regulatory requirements that such 'recovery events' should be more clearly specified using new tools to reduce the potential for the CCP to default.



In 2018 a participant funded mutualised default fund was introduced for the NZX derivatives market which strengthened the default management for that market.

The development of the recovery tools is the next step in aligning the clearing house's risk management model to international regulation and future local regulatory requirements for default management and recovery.

When would the recovery tools be used?

The tools may be used where the losses arising from a clearing participant default are likely to exceed the defaulter's margin, \$10m of the paid in capital of the clearing house (i.e. the junior risk capital) and (for the derivatives market only) the default fund contributions (together the **pre-funded resources**).

The Clearing House's risk management model is calibrated to hold sufficient capital to manage the default of the largest participant in extreme but plausible price volatility. So, for the tools to be used, there would need to be an event where the expected loss is higher than this capital. The two most likely causes of a default recovery event are:

- An adverse price movement in excess of a one in thirty-year probability coinciding with the default of the clearing participant holding extremely large exposures; and/or the
- Simultaneous multiple defaults of clearing participants.

In this scenario, the event is so significant that either the largest participant, or multiple participants, are unable to meet the cash and securities obligations to the clearing house, and the pre-funded resources are insufficient to cover the losses in the market.

For recovery tools to be used:

1. At least one participant has failed: This means that the participant's own assets and financial reserves have already failed to cover its obligations to the market.
 - In a bilateral settlement market, this is the point at which participants on the other side of the contract would experience loss (for example, Access Brokerage).
2. The participant's margin has been used to cover its obligations. Margin covers what is modelled to be 'normal' market movements. 'Normal' is calibrated to cover at least 99% of historical movements over the previous year. For the margin to be insufficient to meet the outstanding obligations, the price movement is likely to be in excess of this scenario.
 - At least \$10m of risk capital put forward by the clearing house has been exhausted, or is predicted to be used. This amount is modelled to be sufficient capital to manage a loss in an extreme but plausible market.

We use a number of stress scenarios to ensure that we hold enough capital to cover a participant's obligations if they do default. To give an example of how the default would be outside of that modelled risk, one scenario, in the cash market, is where there was a large default and the market moved down more than 18%.



If a participant is unable to meet its obligations to the Clearing House, and the margin and risk capital is not sufficient to cover the movement, the Clearing House will not be able to meet its obligations to the non-defaulting participants on the other side of the defaulting participant. This will create settlement failure in the market which, and without the recovery tools, is unable to be resolved with the participant's clients.

Such an event may be regarded as very low probability. Regardless of that probability the Clearing House must have a recovery plan that addresses all potential default losses as an important element of financial market infrastructure regulation. By incorporating a recovery plan in the Rulebook, a clearing house can ensure the availability of a comprehensive suite of default management tools.

How would using the recovery tools differ to what happens today?

Today, if there is a default where a participant is not able to meet its obligations, the margin and risk capital will be used to cover those obligations (as described above).

Following the use of these resources, if such extreme circumstances happened today, it would be difficult to predict the outcome. Should the default be so severe as to cause the insolvency of the Clearing House, New Zealand insolvency law would apply. While the outcome cannot confidently be predicted, it is likely that the Clearing House would go through the insolvency process:

- Some transactions would remain unsettled and losses may accrue until such transactions are settled or terminated by the insolvency practitioners
- The assets and all funds held with the clearing house may be held until otherwise distributed as part of that insolvency.

Alternatively, insolvency may be avoided in the cash market for instance by using the Rule's existing termination powers. This means that:

1. Anything that is due for settlement would be terminated prior to settlement.
2. Participants who are party to a terminated contract will not be required to put up the cash or securities to meet their settlement obligations.
3. Those participants will lose any gain that they had otherwise made on the trade, from trade date to the point of termination (though participants can apply for compensation for direct losses from the defaulting participant under the Rules).

The new recovery tools would change this by providing greater transparency and additional steps that can be implemented after using the margin and risk capital, but before terminating all market positions or entering into insolvency.

Instead of terminating all market positions, the tools could be used to try and settle the unmatched positions, in full or in part. By trying to settle the unmatched positions, the aim is to recognize the agreed settlement contract, and in turn any gain a participant would have otherwise experienced through settlement, due to any price movement between trade date and settlement date.

The tools include:



- Delaying cash settlement to provide time for the Clearing House to obtain the resources to complete settlement
- Seeking payments from participants, which are then used to complete settlement and to share any loss across remaining participants
- Haircutting the gain of participants, either at the point of variation margin or following termination, so that final payments can be completed albeit with a smaller gain than may have otherwise been experienced
- Termination will remain an option.

The aim in using the tools will be to complete settlement as much as possible, and share loss across participants, without creating pro-cyclical default scenarios.

What will the impact of the tools be on clearing participants?

In a normal market, on a daily basis, there should be no impact of having the tools. No additional capital or margin is required to be paid to the Clearing House as a result of the proposed introduction of the additional tools. We also expect that there will be no extra regulatory capital obligations as a result of these changes.

In a large market default scenario, participants will bear the risk arising from the use of the recovery tools. How this risk is borne by each participant, and the outcome of the risk, will differ for each participant and will depend on the scenario (including who defaults, how the market movement occurs, and who holds the portfolio opposing the defaulter). The tools are designed to be loss sharing tools and impact of the tools on participants will increase the further down the default waterfall the recovery scenario goes. This design is intentional, to encourage participants to participate early in the default (for example, we will need participation in the market to sell a defaulting participants portfolio on market, rather than use the recovery tools).

In summary, the impacts on non-defaulting participants may be:

- **Offsetting transactions** – (cash market only) Your settlement may have other settlement obligations tied to it. This may mean that your centrally cleared settlement does not fully complete until later than you expected, which may create exposures against other counterparties (e.g. OTC settlements in NZX CSD).
- **Variation margin gains haircut** – (derivatives market only) You may initially have a haircut on variation margin you are due to receive (for the derivatives market only). This will mean you do not receive as much variation margin as you expect at the scheduled time.
- **Assessment powers** – You may be required to give additional money to settle the market – an assessment. This money is then used to complete settlement of the market. If you have positions relying on the settlement of the defaulting participant's positions, you may receive this money as part of the settlement of those positions.
- **Termination** – Your settlement contract may be terminated prior to settlement. You will not therefore need to meet your settlement obligation. The likely outcome here is that you may not then be able to realise any gains you otherwise may have received from that settlement (or any gain may be reduced, depending on the termination price)
- **Final Payment Reduction** – You may have your final payment amount due haircut. This will mean you receive less for settlement than you otherwise expected.



Some of these impacts may need to be absorbed by clearing participants and some may be passed on to clients. Based on feedback, the Rules will not require where impacts must be passed on to clients – this will depend on your agreements with your clients.

More details on the specific tools and their impacts were included in the second consultation. Please contact risk@nzx.com, if you would like to receive a copy of this document.

What is the impact of the tools on the Clearing House?

The tools provide the Clearing House with ways to try to manage and complete settlement in a default. The tools will also ensure that the Clearing House has arrangements in place relating to recovery, that are consistent with its obligations under the FMI Act. Use of the new tools would increase the likelihood of honouring the original trades that were entered into, which would recognise any gains or losses that non-defaulting participants are entitled to receive since that trade date.

Robust and transparent recovery arrangements reduce the probability of the clearing house's insolvency in very extreme scenarios thereby reducing systemic risk to the market as a whole.

The Clearing House currently provides \$20m in risk capital to cover the risk of default across both the cash and derivatives market. \$10m is sufficient to cover against the largest cash participant default in an extreme but plausible market, when combined with the margin model.

Until 2016, the Clearing House held \$10m in cash and \$10m in contingent capital funded through a deed of guarantee by NZX Limited. In 2016, NZX Limited converted contingent capital into cash, via the debt arrangements to ensure immediate access in a default. This was undertaken to support derivatives market growth. All \$20m is now held as cash.

The tools will not:

- reduce this amount of risk capital put forward by the Clearing House to manage the market; or
- refund any amount of risk capital exhausted by the Clearing House in managing a default

What are the alternatives to the tools?

As noted above, the tools are a regulatory requirement which will form part of the new legislation. Therefore, not implementing financial recovery tools is not an option.

The new tools are part of international practice for CCPs. Alternatives include:

- different ordering of the tools
- varying the operations and timelines
- the relative sizing / caps for the tools
- rules for passing on of losses.

There is no single correct means of combining and implementing these tools. The intention is to attain a fair distribution of risks and any associated costs amongst stakeholders. In practice, solutions need to take into consideration the characteristics of the market structure and cleared products, together with the current distribution of risks and providers of capital.



How can the likelihood of using the tools be impacted?

To reduce the likelihood that the tools are used, the Clearing House could increase its margin requirements. Increasing margins would in theory further reduce the already extremely low probability of the recovery tools being used. More margin would provide greater pre-funded capital to use for a participant default and is a more “user-pays” model (i.e. all users fund greater amounts of margin to be used in their own default).

More margin would reduce the likelihood of using tools which will mutualise loss across participants. It may also have cost implications that may negatively affect market efficiency. The additional cost of funding margin from all Participants appears much more significant than the potentially small reduction in the risk of the recovery tools being used. Whatever margin approach is adopted, it will still need to be supported by new, robust recovery measures.

We consider that to hold more initial margin is an inefficient response in that:

- The risk model already models to protect the market against a default in the normal market and an extreme but plausible market.
- The Clearing House holds enough pre-funded capital based on that modelling to manage such a default, through the margin participants already put forward plus the NZX risk capital.
- Beyond the model, the level of loss is potentially infinite, in terms of the size of portfolio of any defaulting participant and size of movement that impacts that portfolio. It is not possible to hold pre-funded capital to protect against loss that cannot be modelled.
- Pre-funding against risk is capital intensive. There is a balance of protecting the market, and providing capital efficiency. The regulation has determined that balance to be to protect up to the largest participant default in an extreme but plausible market, based on modelled historical data.
- As pre-funding has limits, there will always be the possibility that a loss will go beyond the pre-funded capital. Therefore, there may always be a scenario where the tools are required.

How do the recovery tools compare to those used by other clearing houses?

The proposal is based on international practice and regulatory expectations. Overseas clearing houses have either already implemented similar measures or are in the process of doing so. Clearing houses are not allowed to compete on risk management, and all clearing houses are expected to align to the international standard.

Different market characteristics generate different use of the recovery tools. In particular, varying product ranges, client account structures and default fund contributors drive recovery plan design.

We have considered the international standards in determining the ratio of capital put forward by the Clearing House compared to participant’s promissory resource obligations (through the assessment payments). The amount of money put forward by participants will be capped.

Currently, the core difference between the clearing houses’ risk management model and international standards is that there is no cash market mutualised default fund. A default fund



would require cash market participants to pre-fund money to be held in a mutualised fund which could be used to manage a default.

Does the clearing house have sufficient capital?

The introduction of the recovery tools does not replace the risk capital otherwise funded by the Clearing House to manage a default scenario. The risk capital funded by the Clearing House (along with the default fund for the derivatives market and the defaulter's margin), provides sufficient capital for the modelled default of the largest participant in an extreme but plausible market.

The amount of capital required for these circumstances is modelled daily, using 31 different scenarios covering market wider, sector and individual stock risk scenarios. Based on this:

- The daily average risk capital required is \$1.9m
- Less than 5% of extreme scenarios require risk capital of more than \$5m.

The risk capital provided by the Clearing House remains the first line of defence, following the defaulting participant's pre-funded resources, for a participant default. The sufficiency of the Clearing House's risk capital is reviewed annually, both internally and through an independent risk assessor. The result of this review is provided to the Joint Regulators.

The recovery tools are a separate risk management approach. Irrespective of the amount of pre-funded financial resources the Clearing House holds, the recovery tools are still required to manage the risk a default goes beyond the amount of prefunded capital. This forms part of an expected, integrated risk management framework.



Appendix B: Rule changes

1. New Zealand Clearing Limited: Clearing and Settlement Rules – Mark up against current version
2. New Zealand Clearing Limited: Clearing and Settlement Rules – Mark up against consultation version
3. New Zealand Clearing Limited: Clearing and Settlement Procedures – Mark up against current version
4. New Zealand Depository Limited: Depository Operating Rules – Mark up against current version

