

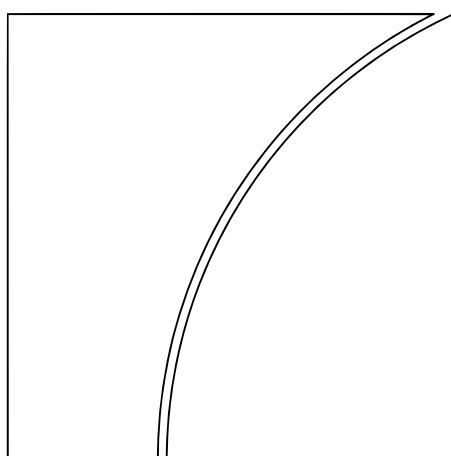
Basel Committee on Banking Supervision

MGN

Margin requirements

MGN20

Requirements



This chapter sets out baseline requirements and methodologies for initial and variation margin, including eligible collateral. Banks may use standardised approaches to calculate margin requirements or, subject to supervisory approval, internal models.

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First version in the format of the consolidated framework.



BANK FOR INTERNATIONAL SETTLEMENTS

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Introduction

20.1

Margin requirements for non-centrally cleared derivatives have two main benefits:

1. Reduction of systemic risk: only standardised derivatives are suitable for central clearing. A substantial fraction of derivatives are not standardised and cannot be centrally cleared. These non-centrally cleared derivatives, totalling hundreds of trillions of dollars in notional amounts, pose the same type of systemic contagion and spillover risks that materialised in the recent financial crisis. Margin requirements for non-centrally cleared derivatives would be expected to reduce contagion and spillover effects by ensuring that collateral is available to offset losses caused by the default of a derivatives counterparty. Margin requirements can also have broader macroprudential benefits, by reducing the financial system's vulnerability to potentially destabilising procyclicality and limiting the build-up of uncollateralised exposures within the financial system.
2. Promotion of central clearing: in many jurisdictions, central clearing will be mandatory for most standardised derivatives. But clearing imposes costs, in part because central counterparties (CCPs) require margin to be posted. Margin requirements on non-centrally cleared derivatives, by reflecting the generally higher risk associated with these derivatives, will promote central clearing, making the Group of Twenty's original 2009 reform programme more effective. This could, in turn, contribute to the reduction of systemic risk.

20.2

Setting margin requirements at the international level is important, to avoid activity moving to locations with lower margin requirements. Such movement would raise concerns about the effectiveness of the margin requirements (eg regulatory arbitrage) or about financial institutions operating in low-margin locations gaining a competitive advantage (ie unlevel playing field).

Minimum requirements

20.3

All covered entities (ie financial firms and systemically important non-financial entities) that engage in non-centrally cleared derivatives must exchange initial and variation margin as appropriate to the counterparty risks posed by such transactions.

20.4

All covered entities that engage in non-centrally cleared derivatives must exchange, on a bilateral basis, the full amount of variation margin (ie a zero threshold) on a regular basis (eg daily).

20.5

All covered entities must exchange, on a bilateral basis, initial margin with a threshold not to exceed €50 million. The threshold is applied at the level of the consolidated group to which the threshold is being extended and is based on all non-centrally cleared derivatives between the two consolidated groups.

20.6

All margin transfers between parties may be subject to a de-minimis minimum transfer amount not to exceed €500,000.

20.7

Initial margin requirements will be phased-in, but at the end of the phase-in period there will be a minimum level of non-centrally cleared derivatives activity (€8 billion of gross notional outstanding amount) necessary for covered entities to be subject to initial margin requirements.

20.8

The methodologies for calculating initial and variation margin that serve as the baseline for margin collected from a counterparty should:

1. be consistent across entities covered by the requirements and reflect the potential future exposure (initial margin) and current exposure (variation margin) associated with the particular portfolio of non-centrally cleared derivatives at issue; and
2. ensure that all counterparty risk exposures are covered fully with a high degree of confidence.

Baseline minimum amounts and methodologies for initial margin

20.9

For the purpose of informing the initial margin baseline, the potential future exposure of a non-centrally cleared derivatives should reflect an extreme but plausible estimate of an increase in the value of the instrument that is consistent with a one-tailed 99 per cent confidence interval over a 10-day horizon, based on historical data that incorporates a period of significant financial stress. The initial margin amount must be calibrated to a period that includes financial stress to ensure that sufficient margin will be available when it is most needed and to limit the extent to which the margin can be procyclical.

20.10

The required amount of initial margin may be calculated by reference to either:

1. a quantitative portfolio margin model; or
2. a standardised margin schedule.

20.11

When initial margin is calculated by reference to an initial margin model, the period of financial stress used for calibration should be identified and applied separately for each broad asset class for which portfolio margining is allowed, as set out below. In addition, the identified period must include a period of financial stress and should cover a historical period not to exceed five years. Additionally, the data within the identified period should be equally weighted for calibration purposes.

20.12

Non-centrally cleared derivatives will often be exposed to a number of complex and interrelated risks. Internal or third-party quantitative models that assess these risks in a granular form can be useful for ensuring that the relevant initial margin amounts are calculated

in an appropriately risk-sensitive manner. Moreover, current practice among a number of large and active central counterparties is to use internal quantitative models when determining initial margin amounts.

20.13

Notwithstanding the utility of quantitative models, the use of such models is predicated on the satisfaction of several prerequisite conditions. These additional requirements are intended to ensure that the use of models does not lead to a lowering of margin standards. The use of models is also not intended to lower margin standards that may already exist in the context of some non-centrally cleared derivatives. Rather, the use of models is intended to produce appropriately risk-sensitive assessments of potential future exposure so as to promote robust margin requirements.

1. Any quantitative model that is used for initial margin purposes must be approved by the relevant supervisory authority. Models that have not been granted explicit approval may not be used for initial margin purposes. Models may be either internally developed or sourced from the counterparties or third-party vendors but in all such cases these models must be approved by the appropriate supervisory authority. Moreover, in the event that a third party-provided model is used for initial margin purposes, the model must be approved for use within each jurisdiction and by each institution seeking to use the model. Similarly, an unregulated counterparty that wishes to use a quantitative model for initial margin purposes may use an approved initial margin model. There will be no presumption that approval by one supervisor in the case of one or more institutions will imply approval for a wider set of jurisdictions and/or institutions.
2. Quantitative initial margin models must be subject to an internal governance process that continuously assesses the value of the model's risk assessments, tests the model's assessments against realised data and experience, and validates the applicability of the model to the derivatives for which it is being used. The process must take into account the complexity of the products covered (eg barrier options and other more complex structures).

20.14

Quantitative initial margin models may account for risk on a portfolio basis. More specifically, the initial margin model may consider all of the derivatives that are approved for model use that are subject to a single legally enforceable netting agreement. Derivatives between counterparties that are not subject to the same legally enforceable netting agreement must not be considered in the same initial margin model calculation.

20.15

Derivative portfolios are often exposed to a number of offsetting risks that can and should be reliably quantified for the purposes of calculating initial margin requirements. At the same time, a distinction must be made between offsetting risks that can be reliably quantified and those that are more difficult to quantify. In particular, inter-relationships between derivatives in distinct asset classes, such as equities and commodities, are difficult to model and validate. Moreover, this type of relationship is prone to instability and may be more likely to break down in a period of financial stress. Accordingly, initial margin models may account for diversification, hedging and risk offsets within well defined asset classes such as currency/rates, equity, credit, or commodities, but not across such asset classes and provided these instruments are covered by the same legally enforceable netting agreement. However, any such incorporation of diversification, hedging and risk offsets by an initial margin model will require approval by the relevant supervisory authority. Initial margin calculations for

derivatives in distinct asset classes must be performed without regard to derivatives in other asset classes. As a specific example, for a derivatives portfolio consisting of a single credit derivative and a single commodity derivative, an initial margin calculation that uses an internal model would proceed by first calculating the initial margin requirement on the credit derivatives and then calculating the initial margin requirement on the commodity derivative. The total initial margin requirement for the portfolio would be the sum of the two individual initial margin amounts because they are in two different asset classes (commodities and credit). Finally, derivatives for which a firm faces no (ie zero) counterparty risk require no initial margin to be collected and may be excluded from the initial margin calculation.

20.16

While quantitative, portfolio-based initial margin models can be a good risk management tool if monitored and governed appropriately; there are some instances in which a simpler and less risk-sensitive approach to initial margin calculations may be warranted. In particular, smaller market participants may not wish or may be unable to develop and maintain a quantitative model and may be unwilling to rely on counterparty's model. In addition, some market participants may value simplicity and transparency in initial margin calculations, without resorting to a complex quantitative model. Further, an appropriately conservative alternative for calculating initial margin is needed in the event that no approved initial margin model exists to cover a specific transaction. Accordingly, the Basel Committee and the International Organization of Securities Commissions (IOSCO) have provided an initial margin schedule, included as Table 1, which may be used to compute the amount of initial margin required on a set of derivatives transactions.

Standardised initial margin schedule		Table 1
Asset class	Initial margin requirement (% of notional exposure)	
Credit: 0-2 year duration	2	
Credit: 2-5 year duration	5	
Credit: 5+ year duration	10	
Commodity	15	
Equity	15	
Foreign exchange	6	
Interest rate: 0-2 year duration	1	
Interest rate: 2-5 year duration	2	
Interest rate: 5+ year duration	4	
Other	15	

20.17

The required initial margin will be computed by referencing the standardised margin rates in [MGN20.16](#) and by adjusting the gross initial margin amount by an amount that relates to the net-to-gross ratio (NGR) pertaining to all derivatives in the legally enforceable netting set. The use of the net-to-gross ratio is an accepted practice in the context of bank capital regulation and recognises important offsets that would not be recognised by strict application of a standardised margin schedule. The required initial margin amount would be calculated in two steps.

1. First, the margin rate in the provided schedule would be multiplied by the gross notional size of the derivatives contract, and then this calculation would be repeated for each derivatives contract.
2. Second, the gross initial margin amount is adjusted by the ratio of the net current replacement cost to gross current replacement cost (NGR). The NGR is defined as the level of net replacement cost over the level of gross replacement cost for transactions subject to legally enforceable netting agreements. The total amount of initial margin required on a portfolio according to the standardised margin schedule would be the net standardised initial margin amount. This is expressed through the following formula:
Net standardised initial margin = 0.4 × gross initial margin + 0.6 × NGR × gross initial margin

20.18

However, if a regulated entity is already using a schedule-based margin to satisfy requirements under its required capital regime, the appropriate supervisory authority may permit the use of the same schedule for initial margin purposes, provided that it is at least as conservative.

20.19

As in the case where firms use quantitative models to calculate initial margin, derivatives for which a firm faces no (ie zero) counterparty risk require no initial margin to be collected and may be excluded from the standardised initial margin calculation.

20.20

Derivatives market participants should not be allowed to switch between model- and schedule-based margin calculations in an effort to “cherry pick” the most favourable initial margin terms. Accordingly, the choice between model- and schedule-based initial margin calculations should be made consistently over time for all transactions within the same well defined asset class and, if applicable, it should comply with any other requirements imposed by the entity’s supervisory authority.

20.21

At the same time, it is quite possible that a market participant may use a model-based initial margin calculation for one class of derivatives in which it commonly deals and a schedule-based initial margin in the case of some derivatives that are less routinely employed in its trading activities. A firm need not restrict itself to a model-based approach or to a schedule-based approach for the entirety of its derivatives activities. Rather, this requirement is meant to ensure that market participants do not use model-based margin calculations in those instances in which such calculations are more favourable than schedule-based requirements and schedule-based margin calculations when those requirements are more favourable than model-based margin requirements.

20.22

Initial margin should be collected at the outset of a transaction, and collected thereafter on a

routine and consistent basis upon changes in measured potential future exposure, such as when trades are added to or subtracted from the portfolio. To mitigate procyclicality impacts, large discrete calls for (additional) initial margin due to “cliff-edge” triggers should be discouraged.

20.23

The build-up of additional initial margin should be gradual so that it can be managed over time. Moreover, margin levels should be sufficiently conservative, even during periods of low market volatility, to avoid procyclicality. The specific requirement that initial margin be set consistent with a period that includes stress is meant to limit procyclical changes in the amount of initial margin required.

20.24

Parties to derivatives contracts should have rigorous and robust dispute resolution procedures in place with their counterparty before the onset of a transaction. In particular, the amount of initial margin to be collected from one party by another will be the result of either an approved model calculation or the standardised schedule. The specific method and parameters that will be used by each party to calculate initial margin should be agreed and recorded at the onset of the transaction to reduce potential disputes. Moreover, parties may agree to use a single model for the purposes of such margin model calculations subject to bilateral agreement and appropriate regulatory approval. In the event that a margin dispute arises, both parties should make all necessary and appropriate efforts, including timely initiation of dispute resolution protocols, to resolve the dispute and exchange the required amount of initial margin in a timely fashion.

20.25

The applicable netting agreements used by market participants will need to be effective under the laws of the relevant jurisdictions and supported by periodically updated legal opinions. Supervisory authorities and relevant market participants should consider how those requirements could best be complied with in practice.

Baseline minimum amounts and methodologies for variation margin

20.26

For variation margin, the full amount necessary to fully collateralise the mark-to-market exposure of the non-centrally cleared derivatives must be exchanged.

20.27

To reduce adverse liquidity shocks and in order to effectively mitigate counterparty credit risk, variation margin should be calculated and exchanged for non-centrally cleared derivatives subject to a single, legally enforceable netting agreement with sufficient frequency (eg daily).

20.28

The valuation of a derivative’s current exposure can be complex and, at times, become subject to question or dispute by one or both parties. In the case of non-centrally cleared derivatives, these instruments are likely to be relatively illiquid. The associated lack of price transparency further complicates the process of agreeing on current exposure amounts for variation margin purposes. Accordingly, parties to derivatives contracts should have rigorous and robust dispute

resolution procedures in place with their counterparty before the onset of a transaction. In the event that a margin dispute arises, both parties should make all necessary and appropriate efforts, including timely initiation of dispute resolution protocols, to resolve the dispute and exchange the required amount of variation margin in a timely fashion.

Eligible collateral for margin

20.29

To ensure that assets collected as collateral for initial and variation margin purposes can be liquidated in a reasonable amount of time to generate proceeds that could sufficiently protect collecting entities covered by the requirements from losses on non-centrally cleared derivatives in the event of a counterparty default, these assets should be highly liquid and should, after accounting for an appropriate haircut, be able to hold their value in a time of financial stress. The set of eligible collateral should take into account that assets which are liquid in normal market conditions may rapidly become illiquid in times of financial stress. In addition to having good liquidity, eligible collateral should not be exposed to excessive credit, market and foreign exchange (FX) risk (including through differences between the currency of the collateral asset and the currency of settlement). To the extent that the value of the collateral is exposed to these risks, appropriately risk-sensitive haircuts should be applied. More importantly, the value of the collateral should not exhibit a significant correlation with the creditworthiness of the counterparty or the value of the underlying non-centrally cleared derivatives portfolio in such a way that would undermine the effectiveness of the protection offered by the margin collected (ie the so-called “wrong way risk”). Accordingly, securities issued by the counterparty or its related entities should not be accepted as collateral. Accepted collateral should also be reasonably diversified.

20.30

National supervisors should develop their own list of eligible collateral assets based on the key principle, taking into account the conditions of their own markets. As a guide, examples of the types of eligible collateral that satisfy the key principle would generally include:

1. cash;
2. high-quality government and central bank securities;
3. high-quality corporate bonds;
4. high-quality covered bonds;
5. equities included in major stock indices; and
6. gold.

20.31

The illustrative list in [MGN20.30](#) should not be viewed as being exhaustive. Additional assets and instruments that satisfy the key principle may also serve as eligible collateral. Also, in different jurisdictions, some particular forms of collateral may be more abundant or generally available due to institutional market practices or norms. Eligible collateral can be denominated in any currency in which payment obligations under the non-centrally cleared derivatives may be made, or in highly liquid foreign currencies subject to appropriate haircuts to reflect the inherent FX risk involved.

20.32

Haircut requirements should be transparent and easy to calculate, so as to facilitate payments between counterparties, avoid disputes and reduce overall operational risk. Haircut levels should be risk-based and should be calibrated appropriately to reflect the underlying risks that affect the value of eligible collateral, such as market price volatility, liquidity, credit risk and FX volatility, during both normal and stressed market conditions. Haircuts should be set conservatively to avoid procyclicality. For example, haircuts should be set at a sufficiently high level during “good times” to avoid the need for sharp and sudden increases in times of stress. Potential methods for determining appropriate haircuts could include either internal or third-party quantitative model-based haircuts or schedule-based haircuts. Each alternative is briefly discussed below.

20.33

As in the case of initial margin models, risk-sensitive quantitative models, both internal or third-party, could be used to establish haircuts provided that the model is approved by supervisors and is subject to appropriate internal governance standards. As in the case of initial margin models, an unregulated derivatives counterparty may use an approved quantitative model. In addition to the points regarding the use of internal models discussed in the context of initial margin, the Basel Committee and IOSCO also note that eligible collateral may vary across national jurisdictions owing to differences in the availability and liquidity of certain types of collateral. As a result, it may be difficult to establish a standardised set of haircuts that would apply to all types of collateral across all jurisdictions that are consistent with the key principle.

20.34

In addition to haircuts based on quantitative models, as in the case of initial margin, derivatives counterparties should also have the option of using standardised haircuts that would provide transparency and limit procyclical effects. The Basel Committee and IOSCO have established a standardised schedule of haircuts for the list of assets appearing above. The haircut levels are derived from the standard supervisory haircuts adopted in the Basel Accord’s comprehensive approach to collateralised transactions framework, and can be found in Table 2. In the event that the Basel Committee chooses to make changes to these haircuts for regulatory capital purposes, the Basel Committee and IOSCO would expect to adopt these changes in the context of the margin requirements for non-centrally cleared derivatives absent a compelling policy reason not to do so. However, if a regulated entity is subject to an existing standardised haircut-based approach under its required capital regime, the appropriate supervisory authority may permit the use of the same haircuts for initial margin purposes, provided that they are at least as conservative. While haircuts serve a critical risk management function in ensuring that pledged collateral is sufficient to cover margin needs in a time of financial stress, other risk mitigants should also be considered when accepting non-cash collateral. In particular, entities covered by the requirements should ensure that the collateral collected is not overly concentrated in terms of an individual issuer, issuer type and asset type.

Standardised haircut schedule		Table 2
Asset class		Haircut (% of market value)
Cash in same currency		0
High-quality government and central bank securities: residual maturity less than one year		0.5

High-quality government and central bank securities: residual maturity between one and five years	2
High-quality government and central bank securities: residual maturity greater than five years	4
High-quality corporate / covered bonds: residual maturity less than one year	1
High-quality corporate / covered bonds: residual maturity greater than one year and less than five years	4
High-quality corporate / covered bonds: residual maturity greater than five years	8
Equities included in major stock indices	15
Gold	15
Additional (additive) haircut in which the currency of the derivatives obligation differs from that of the collateral asset	8

20.35

Schedule-based haircuts should be stringent enough to give firms an incentive to develop internal models. To prevent firms from selectively applying the standardised tables where this would produce a lower haircut, firms would have to consistently adopt either the standardised tables approach or the internal/third-party models approach for all the collateral assets within the same well defined asset class.

20.36

In the event that a dispute arises over the value of eligible collateral, both parties should make all necessary and appropriate efforts, including timely initiation of dispute resolution protocols, to resolve the dispute and exchange any required margin in a timely fashion.

20.37

Collateral that is posted by a counterparty to satisfy margin requirements may, at some point in time before the end of the derivatives contract, be needed by the counterparty for some particular reason or purpose. Alternative collateral may be substituted or exchanged for the collateral that was originally posted provided that both parties agree to the substitution and that the substitution or exchange is made on the terms applicable to their agreement. When collateral is substituted, the alternative collateral must meet all the requirements outlined above. Further, the value of the alternative collateral, after the application of haircuts, must be sufficient to meet the margin requirement.

Treatment of provided initial margin

20.38

Because the exchange of initial margin on a net basis may be insufficient to protect two market

participants with large gross derivatives exposures to each other in the case of one firm's failure, the gross initial margin between such firms should be exchanged. Initial margin collected should be held in such a way as to ensure that:

1. the margin collected is immediately available to the collecting party in the event of the counterparty's default, and
2. the collected margin must be subject to arrangements that protect the posting party to the extent possible under applicable law in the event that the collecting party enters bankruptcy.

20.39

The collateral arrangements used will need to be effective under the relevant laws and supported by periodically updated legal opinions. Jurisdictions are encouraged to review the relevant local laws to ensure that collateral can be sufficiently protected in the event of bankruptcy.

20.40

Initial margin should be exchanged on a gross basis and held in a manner consistent with the key principle in [MGN20.38](#).

20.41

Except where re-hypothecated, re-pledged or re-used in accordance with [MGN20.42](#), cash and non-cash collateral collected as initial margin should not be re-hypothecated, re-pledged or re-used. A jurisdiction may allow the initial margin collector (initial margin collector) to re-hypothecate, re-pledge or re-use certain initial margin collected from a customer (customer) provided that the strict circumstances provided in [MGN20.42](#) are fully adhered to and that the jurisdiction determines that appropriate controls are in place to ensure that such collateral use would only allow a one-time re-hypothecation, re-pledge or re-use in the global financial system; that is, once initial margin collateral has been re-hypothecated, re-pledged or re-used to a third party (third party) in accordance with [MGN20.42](#), no further re-hypothecation, re-pledging or re-use of such initial margin collateral by the third party is permitted. Moreover, collected collateral must be segregated from the initial margin collector's proprietary assets. In addition, the initial margin collector must give the customer the option to segregate the collateral that it posts from the assets of all the initial margin collector's other customers and counterparties (ie individual segregation).

20.42

Cash and non-cash collateral collected as initial margin from a customer may be re-hypothecated, re-pledged or re-used (henceforth re-hypothecated) to a third party only for purposes of hedging the initial margin collector's derivatives position arising out of transactions with customers for which initial margin was collected and it must be subject to conditions that protect the customer's rights in the collateral, to the extent permitted by applicable national law. In this context, customers should only include "buy-side" financial firms as well as non-financial entities, but shall not include entities that regularly hold themselves out as making a market in derivatives, routinely quote bid and offer prices on derivative contracts and routinely respond to requests for bid or offer prices on derivative contracts. In any event, the customer's collateral may be re-hypothecated only if the conditions described below are met:

1. The customer, as part of its contractual agreement with the initial margin collector and after disclosure by the initial margin collector of both its right not to permit re-hypothecation and the risks associated with the nature of the customer's claim to the re-

hypothecated collateral in the event of the insolvency of the initial margin collector or the third party, gives express consent in writing to the re-hypothecation of its collateral. In addition, the initial margin collector must give the customer the option to individually segregate the collateral that it posts.

2. The initial margin collector is subject to regulation of liquidity risk.
3. Collateral collected as initial margin from the customer is treated as a customer asset, and is segregated from the initial margin collector's proprietary assets until re-hypothecated. Once re-hypothecated, the third party must treat the collateral as a customer asset, and must segregate it from the third party's proprietary assets. Assets returned to the initial margin collector after re-hypothecation must also be treated as customer assets and must be segregated from the initial margin collector's proprietary assets.
4. The collateral of customers that have consented to the re-hypothecation of their collateral must be segregated from that of customers that have not so consented.
5. Where initial margin has been individually segregated, the collateral must only be re-hypothecated for the purpose of hedging the initial margin collector's derivatives position arising out of transactions with the customer in relation to which the collateral was provided.
6. Where initial margin has been individually segregated and subsequently re-hypothecated, the initial margin collector must require the third party similarly to segregate the collateral from the assets of the third party's other customers, counterparties and its proprietary assets.
7. Protection is given to the customer from the risk of loss of initial margin in circumstances where either the initial margin collector or the third party becomes insolvent and where both the initial margin collector and the third party become insolvent.
8. Where the initial margin collector re-hypothecates initial margin, the agreement with the recipient of the collateral (ie the third party) must prohibit the third party from further re-hypothecating the collateral.
9. Where collateral is re-hypothecated, the initial margin collector must notify the customer of that fact. Upon request by the customer and where the customer has opted for individual segregation, the initial margin collector must notify the customer of the amount of cash collateral and the value of non-cash collateral that has been re-hypothecated.
10. Collateral must only be re-hypothecated to, and held by, an entity that is regulated in a jurisdiction that meets all of the specific conditions contained in this section and in which the specific conditions can be enforced by the initial margin collector.
11. The customer and the third party may not be within the same group.
12. The initial margin collector and the third party must keep appropriate records to show that all the above conditions have been met.

20.43

The level and volume of re-hypothecation should be disclosed to authorities so that they can monitor any resulting risk.

20.44

Cash and non-cash collateral collected as variation margin may be re-hypothecated, re-pledged or re-used.