

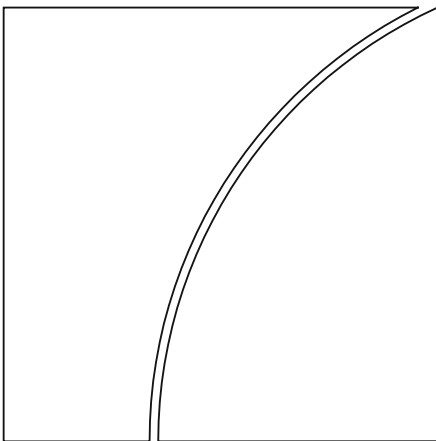
Basel Committee on Banking Supervision

Consultative document

Haircut floors for non- centrally cleared securities financing transactions

Issued for comment by 5 January 2016

5 November 2015



BANK FOR INTERNATIONAL SETTLEMENTS

This publication is available on the BIS website (www.bis.org).

© *Bank for International Settlements 2015. All rights reserved. Brief excerpts may be reproduced or translated provided the source is stated.*

ISBN 978-92-9197-289-0 (print)

ISBN 978-92-9197-290-6 (online)

Contents

- Consultative document – Haircut floors for non-centrally cleared securities financing transactions..... 1
- Background..... 1
- Next steps..... 1
- 1. Proposed haircut floors 2
- 2. Scope of application 2
- 3. Key principles considered in the development of the proposed rules..... 3
- 4. Possible arbitrage opportunities highlighted by the FSB 4
 - (i) Arbitrage between long and short SFT positions using the same security 4
 - (ii) Arbitrage using upgrade of collateral with a security not subject to the FSB proposal..... 4
- 5. Proposed higher capital requirements for in-scope SFTs..... 4
 - (a) Application of the higher capital requirements..... 4
 - (b) Application of the higher capital requirements to a single transaction in scope and not included in a netting set 5
 - (c) Application of the higher capital requirements to a single transaction under scope included in a netting set 5
 - (d) Application of the higher capital requirements to netting sets subject to portfolio-level haircuts..... 7
- 6. Proposed rules text 7
 - A. High-level principles..... 11
 - B. Mitigating liquidity, credit, and other risks associated with cash collateral reinvestment 11
 - C. Stress tests..... 12
 - D. Disclosure requirements 12
- Appendix 1..... 13
- Minimum standards for cash collateral re-investment 13
- 1. High-level principles..... 13
- 2. Mitigating liquidity, credit, and other risks associated with cash collateral reinvestment 13
- 3. Stress tests..... 14
- 4. Disclosure requirements 14

Consultative document – Haircut floors for non-centrally cleared securities financing transactions

Background

In response to the G20 Leaders' request at the Seoul Summit in November 2010, the Financial Stability Board (FSB) has developed policy recommendations to strengthen oversight and regulation of shadow banking. In October 2014, the FSB published a report on *Strengthening Oversight and Regulation of Shadow Banking – Regulatory framework for haircuts on non-centrally cleared securities financing transactions*¹ ("FSB 2014") which specified the regulatory framework for haircuts on non-centrally cleared securities financing transactions (SFTs), and introduced a framework for haircut floors for non-centrally cleared SFTs.

As part of this framework, the FSB recommended that the Basel Committee on Banking Supervision (BCBS) incorporate the haircut floors into the capital requirements for non-centrally cleared SFTs by setting significantly higher capital requirements for transactions with haircuts traded below the haircut floors.

The objective of the proposal presented in this consultative document is to create incentives for banks to set their collateral haircuts above the floors rather than hold more capital.

Q1. Are there any weaknesses or further improvements to the proposals that the Committee should consider?

Q2. Are there any specific implementation challenges with the proposals?

Next steps

The Committee welcomes comments from the public on the specific refinements described in this document by **5 January 2016**. All comments will be published on the website of the Bank for International Settlements unless a respondent specifically requests confidential treatment.

¹ http://www.financialstabilityboard.org/wp-content/uploads/r_141013a.pdf.

1. Proposed haircut floors

The proposed haircut floors have been calibrated taking into account the two-stage QIS performed by the FSB and data on the historical price volatility of in-scope assets, as well as the existing market and central bank haircuts conventions. The haircut floors are intended to serve as “backstops” and limit the build-up of excessive leverage while maintaining incentives for market participants to conduct their own analysis of the appropriate level of haircuts, following the standards set out above. Table 1 below presents the proposed FSB haircut floors.

Table 1

Residual maturity of collateral	Haircut level	
	Corporate and other issuers	Securitised products
≤ 1 year debt securities, and floating rate notes (FRNs)	0.5%	1%
> 1 year, ≤ 5 years debt securities	1.5%	4%
> 5 years, ≤ 10 years debt Securities	3%	6%
> 10 years debt securities	4%	7%
Main index equities	6%	
Other assets within the scope of the framework	10%	

2. Scope of application

As outlined in FSB 2014, the higher capital requirements for SFTs with a haircut below the haircut floors will apply to SFTs that are:

- (i) Non-centrally cleared

“A framework of numerical haircut floors [...] will apply to non-centrally cleared securities financing transactions” (FSB 2014, p 4).

- (ii) Cash-lent-for-collateral with non-banks or collateral-lent-for-collateral with non-banks

“Framework of numerical haircut floors applies to non-centrally-cleared securities financing transactions in which financing against collateral other than government securities is provided to non-banks” (FSB 2014, p 7).

“...numerical haircut floors would also need to apply to “collateral upgrade” transactions. These floors would be equal to the difference between the floors that would be applied to repos of the collateral types on the two legs of the transaction done separately” (FSB 2014, p 4).

- (iii) Not referencing government securities

“Transactions backed by government securities are excluded from the framework” (FSB 2014, p 8).

Also explicitly excluded are:

- (iv) SFTs traded with central banks

“Non-centrally cleared securities financing transactions performed in any operation with central banks are outside the scope of application” (FSB 2014, p 7).

(v) SFTs where the primary motive is to borrow securities rather than lend cash

“The framework of numerical haircut floors is intended to apply to transactions where the primary motive is to provide financing, rather than to borrow or lend specific securities” (FSB 2014, p 9).

“Therefore, cash-collateralised securities lending transactions are exempted from the framework of numerical haircut floors where:

- *Securities are lent at long maturities and the lender of securities reinvests or employs the cash at the same or shorter maturity, therefore not giving rise to material maturity or liquidity mismatch.*
- *Securities are lent at call or at short maturities, giving rise to liquidity risk, only if the lender of the securities reinvests the cash collateral into a reinvestment fund or account subject to regulations or regulatory guidance meeting the minimum standards for reinvestment of cash collateral by securities lenders set out in Section 3.1 of the August 2013 Report.² For this purpose, counterparties may rely on representations by securities lenders that their reinvestment of cash collateral meets the minimum standards”* (FSB 2014, p 9).³

(vi) Collateral-lent-for-collateral where collateral is not re-hypothecable

“Securities lenders could be exempted from the numerical haircut floors on “collateral upgrade” transactions – or securities borrowing/lending transactions against the pledging of other securities as collateral, rather than cash – if they are unable to re-use, or provide representations that they do not and will not reuse, the securities received as collateral against the securities lent” (FSB 2014, p 10).

3. Key principles considered in the development of the proposed rules

The following principles were developed to implement the FSB’s recommendations while taking account of practical issues around varying methodologies for computing haircuts:

- (a) The treatment should be consistently implemented across the different methods available under the Basel framework to compute the exposure of SFTs (ie Financial Collateral Comprehensive Method (FCCM), value-at-risk and Internal Models Method (IMM)).
- (b) The treatment should be designed to incentivise banks to adopt the floors, but still allow them to hold additional capital if they do not.
- (c) The treatment should apply at both the individual transaction level and at the portfolio level.⁴

² These standards can be found in Appendix 1.

³ The maturity date of the securities financing contract should be used to determine the length of maturity, as opposed to the maturity of the underlying asset.

⁴ *“The numerical haircut floors apply both at the transaction level and where margin is applied at the portfolio level”* (FSB 2014, p 9).

4. Possible arbitrage opportunities highlighted by the FSB

There are circumstances under which implementation of the haircut floors could be arbitrated when applied at a netting set (or portfolio) level. That is, banks could implement a strategy using one or more SFT transactions to deliberately avoid the higher capital requirements, while achieving a net position that is economically equivalent to a trade that should be subject to higher capital requirements under the proposal. These situations were considered when developing the proposed higher capital requirements for in-scope transactions under the Basel capital rules. Examples of these arbitrage opportunities include:

(i) Arbitrage between long and short SFT positions using the same security

There is a possible regulatory arbitrage by using two or more offsetting trades with the same underlying securities in a netting agreement that will not be subject to the higher capital requirements at individual level, but would if the net position is considered. The possibility is due to the fact that when the bank lends cash, the STF is subject to the FSB floors, but if it borrows cash on that same SFT, the transaction will not be subject to the FSB floors.

(ii) Arbitrage using upgrade of collateral with a security not subject to the FSB proposal

At a netting set level, another arbitrage opportunity would consist in “upgrading” the collateral with a security that is either not subject to a floor (eg sovereign debt) or subject to a lower floor. For example, a shadow bank could use an SFT to borrow sovereign debt against corporate debt, and then borrow cash against the sovereign debt. None of these trades would be subject to the FSB floors on an individual basis; however, on a net basis, simply borrowing cash against corporate debt would be penalised under the FSB’s proposal.

5. Proposed higher capital requirements for in-scope SFTs

(a) Application of the higher capital requirements

The higher capital requirements apply at the transaction level and only to the transactions in scope whether or not the transaction is contained in a netting set.⁵

To determine whether the higher capital requirements apply to an SFT or a netting set of SFTs, it is necessary to compare the collateral haircut (traded under the SFT transaction or calculated as per the rules below) and a haircut floor (from Table 1 above or calculated as per the below rules). Using the following notation:

- H is the collateral haircut for a given transaction or a group of transactions (either traded or calculated as per the below rules);

⁵ This is done to the extent possible under the proposal. Netting sets subject to portfolio-level haircuts cannot be treated in such a way.

- f is the haircut floor applicable to a given transaction or a group of transactions (directly extracted from Table 1 or calculated as per the below rules);
- M is the nominal value of the cash lent in a cash-lent-for-collateral transaction; and
- C is the current value of the collateral collected in a cash-lent-for-collateral transaction, or a given leg of a collateral-for-collateral transaction.

The fundamental principle of the approach developed hereafter is that, for any SFT transaction or netting set of SFT transactions, if $H < f$, then the bank must treat the transaction as an unsecured loan for the sake of calculating capital requirements.

In the sections below, we will describe how to calculate H and f in different situations starting from the simplest (a single cash-lent-for-collateral SFT) to the most complex (portfolio-level margining).

(b) Application of the higher capital requirements to a single transaction in scope and not included in a netting set

For a single in-scope SFT not included in a netting set, the values of H and f are computed as follows:

- For a single cash-lent-for-collateral SFT, f is given in Table 1, and H is computed using the following formula:

$$H = \frac{C}{M} - 1$$

As an example for an SFT transaction where 100 cash is lent against 101 of a corporate debt security with a 12-year maturity, H is 1% [(101/100)-1] and f is 4% (per Table 1). Therefore, since $H < f$, the SFT in question would be treated as an unsecured loan of 100 to the counterparty.

- For a single collateral-for-collateral SFT, lending collateral A and receiving collateral B, H is still defined by applying the formula above to the amount of collateral received. The effective floor of the transaction (ie assuming a single cash-lent-for-collateral SFT) must incorporate the floors of the two types of collateral (f_A and f_B) and can be computed as:

$$f = \left[\left(\frac{1}{1+f_A} \right) / \left(\frac{1}{1+f_B} \right) \right] - 1 = \frac{1+f_B}{1+f_A} - 1$$

f will be compared to the effective haircut of the transaction. The effective haircut is computed as follows using the collateral amounts C_A and C_B .

$$H = \frac{C_B}{C_A} - 1$$

As an example, for an SFT transaction where 102 of a corporate debt security with a 10-year maturity is exchanged against 104 of equity, the effective haircut H of the transaction is $104/102 - 1 = 1.96\%$ which has to be compared with the effective floor f of $1.06/1.03 - 1 = 2.91\%$. Therefore, the transactions would be treated as an unsecured loan of 102 to the counterparty.

(c) Application of the higher capital requirements to a single transaction under scope included in a netting set

For a single in-scope SFT included in a netting set, the values of H and f depend on the other transactions included in the netting set to avoid the arbitrage possibilities mentioned in Section 4 and to account for net positions that arise from a more complex set of transactions.

When a haircut is calculated for each transaction of the netting set, then for each security type S_j net received, an artificial traded haircut $H_{j,k}$ will be calculated *against an individual security of cash, S_k* , according to the formula below, and the corresponding floor f_{S_j,S_k} will be given by Table 1 for the appropriate security type(s).

$$H_{j,k} = \frac{\sum_{\{T(C_i)=S_j \text{ and } T(R(E_i))=S_k\}} C_i - \sum_{\{T(E_i)=S_k \text{ and } T(R(C_i))=S_j\}} E_i}{\sum_{\{T(E_i)=S_k \text{ and } T(R(C_i))=S_j\}} E_i}$$

where $T(\cdot)$ is an operator function that determines the security, S_i , of an SFT's collateral or exposure, C_i or E_i respectively; $R(\cdot)$ is an operator function that determines the collateral facing an exposure, or the exposure facing a collateral; $\sum_{\{T(C_i)=S_j \text{ and } T(R(E_i))=S_k\}} C_i$ means the sum over all the securities received or lent from the same collateral S_j for which the other leg of the SFT is the security S_k and $\sum_{\{T(E_i)=S_k \text{ and } T(R(C_i))=S_j\}} E_i$ means the sum over all the cash or securities S_k lent against one of the C_i for the same transaction. These summations are done over all the relevant transactions within the same netting set.

Each H_j should be used for the comparison between the applicable haircut floors given in Table 1, or against the relevant implicit floor calculated for a single collateral-for-collateral SFT. Any in-scope SFT for which the artificial traded haircut for its collateral type is below the applicable floor will be treated as an unsecured loan when calculating the capital requirements (ie the corresponding collateral will be set to zero).

The following portfolio of trades gives an example of how this methodology works. The values E_i are represented as positive numbers in the table of actual trades, and the values C_i are represented as negative numbers.

Table 2

Actual trades	Cash	Sovereign debt	Collateral A	Collateral B
<i>FSB Floor</i>	0%	0%	6%	10%
Trade A	100		-105	
Trade B			-200	210
Trade C		85	-90	
Trade D	-20		25	

Net trades	Cash + Sovereign debt	Collateral A	Collateral B	Haircut (H_j)	Floor (f)	Higher capital requirements?
Trade 1	165	-170		3.03%	6%	Yes
Trade 2		-200	210	-4.76%	-3.64%	Yes

Adjusted values	Cash	Sovereign debt	Collateral A	Collateral B
Trade A	100		0	
Trade B			0	210
Trade C		85	0	
Trade D	-20		25	

It is important to note that, although both in-scope and out-of-scope transactions enter into the calculation of the artificial haircuts (to avoid arbitrage); the higher capital requirements only apply to the in-scope SFT transactions.

(d) Application of the higher capital requirements to netting sets subject to portfolio-level haircuts

In certain circumstances, banks may calculate and receive margin on a portfolio basis. For a netting set subject to portfolio-level margining, an effective "portfolio" floor of the transaction can be computed as:

$$f_{Portfolio} = \left[\left(\frac{\sum E_s}{\sum (E_s \times (1 + f_s))} \right) / \left(\frac{\sum C_s}{\sum (C_s \times (1 + f_s))} \right) \right] - 1$$

where E_s is the net position in each security (or cash) s that is net lent, C_s the net position that is net borrowed, and f_s is the applicable haircut floor from Table 1. The portfolio floor $f_{Portfolio}$ will be compared to the weighted average haircut of each transaction in the portfolio. The portfolio haircut does not breach the floor when:

$$\frac{\sum C_s - \sum E_s}{\sum E_s} > f_{Portfolio}$$

If the portfolio haircut does breach the floor, the transactions are treated as unsecured loans to the counterparty when computing their capital charge.

The following portfolio of trades gives an example of how this methodology works.

Table 3

Actual trades	Cash	Sovereign debt	Collateral A	Collateral B
FSB Floor (f_s)	0%	0%	6%	10%
Portfolio of trades	50	100	-400	250
E_s	50	100	0	250
C_s	0	0	400	0
$f_{portfolio}$	-0.0024			
$(\sum C_s - \sum E_s) / (\sum E_s)$	0			

This portfolio of trades satisfies the minimum haircut floors (since the floor is below the weighted average haircut of the trades in the portfolio) and is therefore not subject to the higher capital requirements. The floor of the portfolio $f_{Portfolio}$ is negative in this example because the riskier collateral (Collateral B) contributes in the calculation on the exposures side.

6. Proposed rules text

The following changes will be made to the Basel rules text to accommodate the above requirements.

1. Section (v) Miscellaneous of Part 2 (Pillar 1), Section II.D.2 (v) will be moved to a new section (vi).
2. Part 2 (Pillar 1), Section II.D.2 (v) will be renamed "Minimum haircut floors for SFTs".
3. The following new paragraphs will be added to the "Minimum haircut floors for SFTs" section.

143(i). *Non-centrally cleared SFTs in which the financing against collateral other than government securities is provided to counterparties who are not supervised by a regulator that imposes prudential requirements consistent with international norms are subject to the haircut floors found in paragraph 143(vi) below.*

143(ii). The haircut floors also apply to “collateral upgrade” transactions with these same counterparties. For these transactions, the floors are equal to the difference between the floors for each of the collateral types.

143(iii). SFTs with central banks are not subject to the haircut floors.

143(iv). Cash-collateralised securities lending transactions are exempted from the haircut floors where:

- Securities are lent at long maturities and the lender of securities reinvests or employs the cash at the same or shorter maturity, therefore not giving rise to material maturity or liquidity mismatch.
- Securities are lent at call or at short maturities, giving rise to liquidity risk, only if the lender of the securities reinvests the cash collateral into a reinvestment fund or account subject to regulations or regulatory guidance meeting the minimum standards for reinvestment of cash collateral by securities lenders set out in paragraph 143(xii). For this purpose, banks may rely on representations by securities lenders that their reinvestment of cash collateral meets the minimum standards.

143(v). Securities lenders are exempted from the haircut floors on “collateral upgrade” transactions – or securities borrowing/lending transactions against the pledging of other securities as collateral, rather than cash – if they are unable to re-use, or provide representations that they do not and will not reuse, the securities received as collateral against the securities lent.

143(vi). These are the haircut floors for SFTs referred to above (herein referred to as “in-scope SFTs”), expressed as percentages:

Residual maturity of collateral	Haircut level	
	Corporate and other issuers	Securitised products
≤ 1 year debt securities, and floating rate notes (FRNs)	0.5%	1%
> 1 year, ≤ 5 years debt securities	1.5%	4%
> 5 years, ≤ 10 years debt securities	3%	6%
> 10 years debt securities	4%	7%
Main index equities	6%	
Other assets within the scope of the framework	10%	

143(vii). In-scope SFTs which do not meet the haircut floors must be treated as unsecured loans to the counterparties.

143(viii). To determine whether the treatment in paragraph 143(vii) applies to an in-scope SFT (or a netting set of SFTs in the case of portfolio-level haircuts), we must compare the collateral haircut H (real or calculated as per the rules below) and a haircut floor f (from paragraph 143 (vi) above or calculated as per the below rules).

143(ix). For a single in-scope SFT not included in a netting set, the values of H and f are computed as:

- For a single cash-lent-for-collateral SFT, H and f are known since H is simply defined by the amount of collateral received and f is given in paragraph 143(vi).

For example, consider an in-scope SFT where 100 cash is lent against 101 of a corporate debt security with a 12-year maturity, H is 1% $[(101-100)/100]$ and f is 4% (per paragraph 143(vi)). Therefore, the SFT in question would be subject to the treatment in paragraph 143(vii).

- For a single collateral-for-collateral SFT, lending collateral A and receiving collateral B, the H is still be defined by the amount of collateral received but the effective floor of the transaction must integrate the floor of the two types of collateral and can be computed as:

$$f = \left[\left(\frac{1}{1 + f_A} \right) / \left(\frac{1}{1 + f_B} \right) \right] - 1 = \frac{1 + f_B}{1 + f_A} - 1$$

which will be compared to the effective haircut of the transaction, ie $\frac{C_B}{C_A} - 1$

For example, consider an in-scope SFT where 102 of a corporate debt security with a 10-year maturity is exchanged against 104 of equity, the effective haircut H of the transaction is $104/102 - 1 = 1.96\%$ which has to be compared with the effective floor f of $1.06/1.03 - 1 = 2.91\%$. Therefore, the SFT in question would be subject to the treatment in paragraph 143(vii).

143(x). For a single in-scope SFT included in a netting set, the values of H and f are computed as follows for all trades in the same security-against-cash (or security-against-security) pair:

- When the margin is calculated for each transaction of the netting set, for all securities net received S_j , an artificial margin $H_{j,k}$ will be calculated against an individual security or cash S_k , according to the formula below. The corresponding floor f_{S_j, S_k} is given in paragraph 143(vi) for the appropriate security type or computed for the security-against-security pair according to paragraph 143(ix).

$$H_{j,k} = \frac{\sum_{\{T(C_i)=S_j \text{ and } T(R(C_i))=S_k\}} C_i - \sum_{\{T(E_i)=S_k \text{ and } T(R(E_i))=S_j\}} E_i}{\sum_{\{T(E_i)=S_k \text{ and } T(R(E_i))=S_j\}} E_i}$$

Where $T(.)$ is the operator function that determines the security, S_i of an SFT's collateral or exposure, C_i or E_i respectively; $R(.)$ is an operator function that determines the collateral facing an SFT's exposure, or the exposure facing an SFT's collateral; $\sum_{\{T(C_i)=S_j \text{ and } T(R(C_i))=S_k\}} C_i$ means the sum over all the securities received or lent in the same collateral S_j against all E_i in the security; and $\sum_{\{T(E_i)=S_k \text{ and } T(R(E_i))=S_j\}} E_i$ means the sum over all the cash or single security S_k received or lent against one of the C_i such that $T(C_i) = S_j$. These summations are done over all transactions within a netting set.

$H_{j,k}$ should then be used for the comparison between H and f. For the purposes of paragraph 143(x) only, including for the calculation of pairwise floors via paragraphs 143(vi) and 143(ix), sovereign debt securities should be treated as cash equivalents, and netted with cash lent or received accordingly.

The following portfolio of trades gives an example of how this methodology works. The values E_i are represented as positive numbers in the table of actual trades, and the values C_i are represented as negative numbers

Actual trades	Cash	Sovereign debt	Collateral A	Collateral B
FSB Floor	0%	0%	6%	10%
Trade A	100		-105	
Trade B			-200	210
Trade C		85	-90	
Trade D	-20		25	

Net trades	Cash + Sovereign debt	Collateral A	Collateral B	Haircut (Hj)	Floor (f)	Higher capital requirements?
Trade 1	165	-170		3.03%	6%	Yes
Trade 2		-200	210	-4.76%	-3.64%	Yes

Adjusted values	Cash	Sovereign debt	Collateral A	Collateral B
Trade A	100		0	
Trade B			0	210
Trade C		85	0	
Trade D	-20		25	

Note that although both in-scope and out-of-scope SFTs enter into the calculation of the artificial margin, the higher capital requirements only applies to the in-scope transactions.

143(xi). In certain circumstances, banks may calculate and receive margin on a portfolio basis. For a netting subject to portfolio-level margining, an effective "portfolio" floor of the transaction can be computed as:

$$f_{Portfolio} = \left[\left(\frac{\sum E_s}{\sum (E_s \times (1 + f_s))} \right) / \left(\frac{\sum C_s}{\sum (C_s \times (1 + f_s))} \right) \right] - 1$$

Where E_s is the net position in each security (or cash) s that is net lent, and C_s the net position that is net borrowed. This calculation is therefore the weighted average floor of the portfolio. Then the portfolio does not breach the floor where:

$$\frac{\sum C_s - \sum E_s}{\sum E_s} > f_{Portfolio}$$

If the portfolio haircut does breach the floor, then the netting set of SFTs is subject to the treatment in paragraph 143(vii). This treatment should be applied to all trades for which the security received appears in the table in paragraph 143(vi) and for which, within the netting set, the bank is also a net receiver in that security.

The following portfolio of trades gives an example of how this methodology works.

Actual trades	Cash	Sovereign debt	Collateral A	Collateral B
FSB Floor (f_s)	0%	0%	6%	10%
Portfolio of trades	50	100	-400	250
E_s	50	100	0	250
C_s	0	0	400	0

$f_{portfolio}$	-0.0024
$(\sum C_s - \sum E_s) / (\sum E_s)$	0

Minimum standards for cash collateral re-investment

143(xii).

A. High-level principles

A.1 *In developing its cash collateral reinvestment strategy and investment guidelines, the securities lender and/or its agent should take into account the possibility that the cash collateral could be recalled at any time by the party that borrowed securities, consider whether the firm holds assets that are sufficiently liquid to meet reasonably foreseeable recalls of cash collateral, and take measures to manage the associated liquidity risk.*

A.2 *Securities lending cash collateral reinvestment should be conducted with capital preservation as one of the primary objectives. In particular, cash collateral reinvestment guidelines should take into account whether unexpectedly large requests for returning cash collateral could be met if the market for the assets in which the cash collateral has been reinvested became illiquid, and liquidating the assets would result in a loss.*

A.3 *Cash collateral reinvestment should be consistent with the securities lender's stated and approved investment policy, so as not to add substantial incremental risk to the firm's risk profile. In developing and approving cash collateral reinvestment guidelines, securities lenders should take into account the size of this activity relative to the firm overall.*

A.4 *Investment guidelines (and subsequent modifications) for securities lending cash collateral reinvestment should be formally documented by lending agents and communicated to beneficial owners.*

A.5 *Securities lenders should explicitly approve, formally document and regularly review investment guidelines that govern cash collateral reinvestment. The guidelines should comply with these principles. Lending agents should ensure that all their clients have such guidelines.*

A.6 *Assets which the securities lender and/or its agent hold to meet cash collateral calls should be highly liquid with transparent pricing so that they can be valued at least on a daily basis and sold, if needed, at a price close to their pre-sale valuation.*

B. Mitigating liquidity, credit, and other risks associated with cash collateral reinvestment

B.1 *The securities lender and/or its agent should reinvest the cash collateral in a way that limits the potential for maturity mismatch, and should hold assets that are sufficiently liquid and low-risk to meet reasonably foreseeable demands for cash collateral redemption, together with a buffer to guard against stress scenarios. The securities lender and/or its agent should develop an appropriate risk management structure consistent with the cash collateral reinvestment guidelines.*

B.2 *Specific requirements for the cash collateral reinvestment portfolio and/or liquidity pool maintained to meet cash collateral recalls should be set by relevant authorities, with a requirement for on-going compliance, including⁶*

(a) *A minimum portion of the cash collateral to be kept in short-term deposits (with high-quality financial institutions), held in highly liquid short-term assets (such as high-quality government treasury bills and bonds), or invested in short-tenor transactions (such as overnight or open reverse repos backed by highly liquid assets) that can be readily converted to cash over short time horizons, such as one day and one week, to meet potential recalls of cash collateral.*

(b) *Specific limits for the weighted average maturity (WAM) and/or weighted average life (WAL) of the portfolio in which the cash collateral is reinvested. The methodology for calculating both WAM*

⁵ Some requirements may not be necessary if (a) is set very conservatively.

and WAL should be available to regulators and disclosed to securities lending clients in the case where agent lenders are employed by a securities lender.⁷

B.3 The following are additional requirements that could be considered:

- (a) A maximum remaining term to maturity for any single investment in which the cash collateral is reinvested, which maximum could vary by asset class based on the liquidity of the instruments.*
- (b) Concentration limits for the cash collateral reinvestment portfolio to limit the firm's exposure to individual securities, issuers, guarantors, security types, and counterparties. These limits could be lower for less liquid assets.*

C. Stress tests

C.1 The securities lender and/or its agent should stress-test its ability to meet foreseeable and unexpected calls for the return of cash collateral on an on-going basis.

C.2 These stress tests should include an assessment of the lender's ability to liquidate part or the entire reinvestment portfolio under a range of stressed market scenarios, including interest rate changes, higher cash collateral recalls from securities borrowers, higher redemptions by investors in the funds being lent, and changes in the credit quality of the portfolio.

D. Disclosure requirements

D.1 Agent lenders should frequently disclose to their clients (the beneficial owners of securities) the composition and valuation of their portfolio of securities on loan and their cash collateral reinvestment portfolio.

D.2 Disclosure by agents to their clients, and to the relevant regulator upon request or at the frequency set by such regulator, should include, at a minimum, the specific metrics set by relevant authorities or included in the reinvestment guidelines, which may include the following:

- the percentage of assets held in cash or cash equivalents over a one day and one week liquidation horizon;*
- the WAM and WAL of the investment portfolio;*
- the maximum remaining term to maturity of any individual investment;*
- the percentage of assets that are held in illiquid securities (and how these are defined);*
- the maximum exposure of the fund to an individual security, issuer, and asset type;*
- the split between secured and unsecured exposures;*
- the distribution of collateral received in reverse repo;*
- the average yield of the investment portfolio; and*
- results from liquidity stress tests.*

⁶ In a WAM calculation, the interest rate reset date for variable and floating rate securities can usually be used instead of the stated final maturity date. This provides a view on the interest rate risk but may conceal risks that a fund faces in holding securities to maturity. WAL is a complementary measure that allows funds to use the date when a fund may receive payment of principal and interest instead of stated maturity to represent the life of a security. The WAL measure may be more suited to capturing prepayment, credit or liquidity risks in a portfolio.

Appendix 1

Minimum standards for cash collateral re-investment

1. High-level principles

1.1 In developing its cash collateral reinvestment strategy and investment guidelines, the securities lender and/or its agent should take into account the possibility that the cash collateral could be recalled at any time by the party that borrowed securities, consider whether the firm holds assets that are sufficiently liquid to meet reasonably foreseeable recalls of cash collateral, and take measures to manage the associated liquidity risk.

1.2 Securities lending cash collateral reinvestment should be conducted with capital preservation as one of the primary objectives. In particular, cash collateral reinvestment guidelines should take into account whether unexpectedly large requests for returning cash collateral could be met if the market for the assets in which the cash collateral has been reinvested became illiquid, and liquidating the assets would result in a loss.

1.3 Cash collateral reinvestment should be consistent with the securities lender's stated and approved investment policy, so as not to add substantial incremental risk to the firm's risk profile. In developing and approving cash collateral reinvestment guidelines, securities lenders should take into account the size of this activity relative to the firm overall.

1.4 Investment guidelines (and subsequent modifications) for securities lending cash collateral reinvestment should be formally documented by lending agents and communicated to beneficial owners.

1.5 Securities lenders should explicitly approve, formally document and regularly review investment guidelines that govern cash collateral reinvestment. The guidelines should comply with these principles. Lending agents should ensure that all their clients have such guidelines.

1.6 Assets which the securities lender and/or its agent hold to meet cash collateral calls should be highly liquid with transparent pricing so that they can be valued at least on a daily basis and sold, if needed, at a price close to their pre-sale valuation.

2. Mitigating liquidity, credit, and other risks associated with cash collateral reinvestment

2.1 The securities lender and/or its agent should reinvest the cash collateral in a way that limits the potential for maturity mismatch, and should hold assets that are sufficiently liquid and low-risk to meet reasonably foreseeable demands for cash collateral redemption, together with a buffer to guard against stress scenarios. The securities lender and/or its agent should develop an appropriate risk management structure consistent with the cash collateral reinvestment guidelines.

2.2 Specific requirements for the cash collateral reinvestment portfolio and/or liquidity pool maintained to meet cash collateral recalls should be set by relevant authorities, with a requirement for ongoing compliance, including:¹⁷

- (a) *A minimum portion of the cash collateral to be kept in short-term deposits (with high-quality financial institutions), held in highly liquid short-term assets (such as high-quality government treasury bills and bonds), or invested in short-tenor transactions (such as overnight or open reverse repos backed by highly liquid assets) that can be readily converted to cash over short time horizons, such as one day and one week, to meet potential recalls of cash collateral.*
- (b) *Specific limits for the weighted average maturity (WAM) and/or weighted average life (WAL) of the portfolio in which the cash collateral is reinvested. The methodology for calculating both WAM and WAL should be available to regulators and disclosed to securities lending clients in the case where agent lenders are employed by a securities lender.*¹⁸

2.3 The following are additional requirements that could be considered:

- (a) *A maximum remaining term to maturity for any single investment in which the cash collateral is reinvested, which maximum could vary by asset class based on the liquidity of the instruments.*
- (b) *Concentration limits for the cash collateral reinvestment portfolio to limit the firm's exposure to individual securities, issuers, guarantors, security types, and counterparties. These limits could be lower for less liquid assets.*

3. Stress tests

3.1 The securities lender and/or its agent should stress-test its ability to meet foreseeable and unexpected calls for the return of cash collateral on an ongoing basis.

3.2 These stress tests should include an assessment of the lender's ability to liquidate part or the entire reinvestment portfolio under a range of stressed market scenarios, including interest rate changes, higher cash collateral recalls from securities borrowers, higher redemptions by investors in the funds being lent, and changes in the credit quality of the portfolio.

4. Disclosure requirements

4.1 Agent lenders should frequently disclose to their clients (the beneficial owners of securities) the composition and valuation of their portfolio of securities on loan and their cash collateral reinvestment portfolio.

¹⁷ Some requirements may not be necessary if (a) is set very conservatively.

¹⁸ In a WAM calculation, the interest rate reset date for variable and floating rate securities can usually be used instead of the stated final maturity date. This provides a view on the interest rate risk but may conceal risks that a fund faces in holding securities to maturity. WAL is a complementary measure that allows funds to use the date when a fund may receive payment of principal and interest instead of stated maturity to represent the life of a security. The WAL measure may be more suited to capturing prepayment, credit or liquidity risks in a portfolio.

4.2 Disclosure by agents to their clients, and to the relevant regulator upon request or at the frequency set by such regulator, should include, at a minimum, the specific metrics set by relevant authorities or included in the reinvestment guidelines, which may include the following:

- the percentage of assets held in cash or cash equivalents over a one-day and one-week liquidation horizon;
- the WAM and WAL of the investment portfolio;
- the maximum remaining term to maturity of any individual investment;
- the percentage of assets that are held in illiquid securities (and how these are defined);
- the maximum exposure of the fund to an individual security, issuer, and asset type;
- the split between secured and unsecured exposures;
- the distribution of collateral received in reverse repo;
- the average yield of the investment portfolio; and
- results from liquidity stress tests.