

Consultative Document

Strengthening Oversight and Regulation of Shadow Banking

A Policy Framework for Addressing Shadow Banking Risks in Securities Lending and Repos

18 November 2012

Preface

Strengthening Oversight and Regulation of Shadow Banking

Consultative documents

The Financial Stability Board (FSB) is seeking comments on consultative documents on Strengthening Oversight and Regulation of Shadow Banking.

The FSB has focused on five specific areas in which the FSB believes policies are needed to mitigate the potential systemic risks associated with shadow banking:

- (i) to mitigate *the spill-over effect between the regular banking system and the shadow banking system*;
- (ii) to reduce the susceptibility of *money market funds (MMFs)* to “runs”;
- (iii) to assess and mitigate systemic risks posed by *other shadow banking entities*;
- (iv) to assess and align the incentives associated with *securitisation*; and
- (v) to dampen risks and pro-cyclical incentives associated with *secured financing contracts such as repos, and securities lending* that may exacerbate funding strains in times of “runs”.

The consultative documents published on 18 November 2012 comprise¹:

- **An integrated overview of policy recommendations**², setting out the concerns that have motivated this work, the FSB’s approach to addressing these concerns, as well as the recommendations made.
- **A policy framework for oversight and regulation of shadow banking entities.**³ This document sets out recommendations to assess and address risks posed by “Other Shadow Banking” entities (ref. (iii) above).
- **A policy framework for addressing shadow banking risks in securities lending and repos.** This document sets out recommendations for addressing financial stability risks in this area, including enhanced transparency, regulation of securities financing, and improvements to market structure (ref. (v) above).

¹ As for area (i) above, the Basel Committee on Banking Supervision (BCBS) will develop policy recommendations by mid-2013. As for areas (ii) and (iv) above, the International Organization of Securities Commissions (IOSCO) has developed final policy recommendations in its reports *Policy Recommendations for Money Market Funds* (<http://www.iosco.org/library/pubdocs/pdf/IOSCOPD392.pdf>) and *Global Developments in Securitisation Markets* (<http://www.iosco.org/library/pubdocs/pdf/IOSCOPD394.pdf>).

² http://www.financialstabilityboard.org/publications/r_121118.pdf

³ http://www.financialstabilityboard.org/publications/r_121118a.pdf

The FSB welcomes comments on these documents. Comments should be submitted by **14 January 2013** by email to fsb@bis.org or post (Secretariat of the Financial Stability Board, c/o Bank for International Settlements, CH-4002, Basel, Switzerland). All comments will be published on the FSB website unless a commenter specifically requests confidential treatment. The FSB expects to publish final recommendations in September 2013.

Background

The “shadow banking system” can broadly be described as “credit intermediation involving entities and activities (fully or partially) outside the regular banking system” or non-bank credit intermediation in short. Such intermediation, appropriately conducted, provides a valuable alternative to bank funding that supports real economic activity. But experience from the crisis demonstrates the capacity for some non-bank entities and transactions to operate on a large scale in ways that create bank-like risks to financial stability (longer-term credit extension based on short-term funding and leverage). Such risk creation may take place at an entity level but it can also form part of a complex chain of transactions, in which leverage and maturity transformation occur in stages, and in ways that create multiple forms of feedback into the regulated banking system.

Like banks, a leveraged and maturity-transforming shadow banking system can be vulnerable to “runs” and generate contagion risk, thereby amplifying systemic risk. Such activity, if unattended, can also heighten procyclicality by accelerating credit supply and asset price increases during surges in confidence, while making precipitate falls in asset prices and credit more likely by creating credit channels vulnerable to sudden losses of confidence. These effects were powerfully revealed in 2007-09 in the dislocation of asset-backed commercial paper (ABCP) markets, the failure of an originate-to-distribute model employing structured investment vehicles (SIVs) and conduits, “runs” on MMFs and a sudden reappraisal of the terms on which securities lending and repos were conducted. But whereas banks are subject to a well-developed system of prudential regulation and other safeguards, the shadow banking system is typically subject to less stringent, or no, oversight arrangements.

The objective of the FSB’s work is to ensure that shadow banking is subject to appropriate oversight and regulation to address bank-like risks to financial stability emerging outside the regular banking system while not inhibiting sustainable non-bank financing models that do not pose such risks. The approach is designed to be proportionate to financial stability risks, focusing on those activities that are material to the system, using as a starting point those that were a source of problems during the crisis. It also provides a process for monitoring the shadow banking system so that any rapidly growing new activities that pose bank-like risks can be identified early and, where needed, those risks addressed. At the same time, given the interconnectedness of markets and the strong adaptive capacity of the shadow banking system, the FSB believes that proposals in this area necessarily have to be comprehensive.

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Introduction

Based on the initial recommendations to strengthen oversight and regulation of the shadow banking system as set out in its report submitted to the G20 in October 2011⁴, the Financial Stability Board (FSB) set up the Workstream on Securities Lending and Repos (WS5) to assess financial stability risks and develop policy recommendations, where necessary, by the end of 2012 to strengthen regulation of securities lending and repos.

In April 2012, WS5 published its interim report *Securities Lending and Repos: Market Overview and Financial Stability Issues* which provided an overview of the securities lending and repos markets, described their location in the shadow banking system, and discussed the financial stability issues arising from practices in these markets.⁵ Comment letters were received from 17 respondents including trade associations representing both securities borrowers and lenders, intermediaries in the securities lending and repo markets, and asset managers.⁶ In general, the respondents supported the FSB's efforts to address risks that are inherent in the securities lending and repo markets, but asked for care in weighing the pros and cons as well as assessing the potential impact of any policy measures that might be introduced and existing regulations that may mitigate potential financial stability concerns.

In developing its policy recommendations, WS5's focus was on addressing the financial stability issues as described in Section 1. They are based on issues discussed in the interim report but with more focus on shadow banking risks so as to have a clear mapping to policy recommendations. WS5 has endeavoured to ensure that its recommendations minimise the risk of regulatory arbitrage as well as undue distortion of markets, and are consistent with other international regulatory initiatives.

The policy recommendations of WS5 are categorised in three broad groups in accordance with the nature of the recommendations: improvement in transparency (Section 2); regulation of securities financing (Section 3); and structural aspects of the securities financing markets (Section 4). They are summarised at the end of this document (in Annex 1). Application of the proposed policy recommendations may vary in details across jurisdictions, depending on existing regulatory frameworks. The implementation of recommendations and their consistency across jurisdictions will be monitored through FSB after they are finalised.

The FSB welcomes comments on this consultative document. It especially welcomes comments to the questions raised in the document. Comments and responses to questions should be submitted by **14 January 2013** by email to fsb@bis.org or post (Secretariat of the Financial Stability Board, c/o Bank for International Settlements, CH-4002, Basel, Switzerland). All comments will be published on the FSB website unless a commenter specifically requests confidential treatment.

⁴ http://www.financialstabilityboard.org/publications/r_111027a.pdf

⁵ http://www.financialstabilityboard.org/publications/r_120427.pdf

⁶ All comments received are published on the FSB website (http://www.financialstabilityboard.org/publications/c_120807.htm).

General questions (Please provide any evidence supportive of your response, including studies or other documentation as necessary)

Q1. Does this consultative document, taken together with the earlier interim report, adequately identify the financial stability risks in the securities lending and repo markets? Are there additional financial stability risks in the securities lending and repo markets that the FSB should have addressed? If so, please identify any such risks, as well as any potential recommendation(s) for the FSB's consideration.

Q2. Do the policy recommendations in the document adequately address the financial stability risk(s) identified? Are there alternative approaches to risk mitigation (including existing regulatory, industry, or other mitigants) that the FSB should consider to address such risks in the securities lending and repo markets? If so, please describe such mitigants and explain how they address the risks. Are they likely to be adequate under situations of extreme financial stress?

Q3. Please explain the feasibility of implementing the policy recommendations (or any alternative that you believe that would more adequately address any identified financial stability risks) in the jurisdiction(s) on which you would like to comment?

Q4. Please address any costs and benefits, as well as unintended consequences from implementing the policy recommendations in the jurisdiction(s) on which you would like to comment? Please provide quantitative answers, to the extent possible, that would assist the FSB in carrying out a subsequent quantitative impact assessment.

Q5. What is the appropriate phase-in period to implement the policy recommendations (or any alternative that you believe would more adequately address any identified financial stability risks)?

1. Financial stability risks in securities lending and repo markets

Securities lending and repo markets play crucial roles in supporting price discovery and secondary market liquidity for a variety of securities issued by both public and private agents. They are central to financial intermediaries' abilities to make markets, and facilitate the implementation of various investment, risk management, and collateral management strategies. Repo markets are also instrumental in monetary refinancing operations in many jurisdictions. Notwithstanding these important benefits, the use of securities lending and repos can lead to "bank-like" activities, such as creating "money-like" liabilities, carrying out maturity/liquidity transformation, and obtaining leverage, including short-term financing of longer-term assets, some of which may run the risk of becoming illiquid or losing value.

Such financial stability risks in the securities lending and repo markets can be split into (i) "pure" shadow banking risks – i.e. maturity/liquidity transformation and leverage outside the banking sector – and (ii) risks that span both banking and shadow banking.

1.1 Pure shadow banking risks

(i) Using repo to create short-term, money-like liabilities, facilitating credit growth and maturity/liquidity transformation outside the banking system

- This can pose a risk to financial stability by aiding the build-up of excessive leverage and maturity transformation outside the reach of prudential liquidity and capital regulation.
- The policy goal is to ensure sufficient transparency to the authorities and limit risks to financial stability from excessive leverage and maturity transformation.

(ii) Securities lending cash collateral reinvestment

- This is a large-scale activity – around US\$1 trillion globally on the balance sheet of “real money” investors; it is largely facilitated by custodian banks as agent lenders.⁷
- The risk is that cash collateral reinvestment can involve maturity and liquidity transformation, which if left unchecked can present risks and negative externalities to firms beyond the beneficial owner or agent lender in a stress event.
- The policy goal is to subject cash collateral reinvestment to regulatory limits on liquidity and leverage risks.

1.2 Risks that span banking and shadow banking

(i) Tendency of secured financing to increase procyclicality of system leverage

- Variations in asset values will drive procyclicality in any banking system. But a system based on secured financing may be more procyclical because of the direct relationship of funding levels to fluctuating asset values and (via the levels of haircuts) volatility.
- The policy goal is to restrict, or put a floor on the cost of, secured borrowing against assets subject to procyclical variation in valuations/volatility, to reduce the potential for the excessive leverage to build-up and for large swings in system leverage when the financial system is under stress.

(ii) Risk of a fire sale of collateral securities

- Following a counterparty default, some creditors in the repo financing and securities lending segments are likely to sell collateral securities immediately, because of regulatory restrictions on portfolio holdings, limited operational or risk management capacity, or a need for liquidity. This may lead to sharp price falls that create mark-to-market losses for all holders of those securities. These losses can in turn lead to fresh rounds of fire sales by other firms, thereby creating an asset valuation spiral.
- The policy goal is to mitigate the risk that large forced sales of collateral in one market segment arise as a channel of risk transmission beyond that market segment and throughout the broader financial system.

(iii) Re-hypothecation of unencumbered assets

- Re-hypothecation can replace ownership of securities with a contractual claim on a financial institution to return equivalent securities, with ownership of the re-hypothecated securities transferring to this institution. Re-hypothecation of client

⁷ According to data from the Quarterly Aggregate Composite survey conducted by the Risk Management Association, the total value of US\$ cash collateral reinvestment globally stood at \$1.0 trillion in Q3 2008.

assets can create financial stability risks if clients are uncertain about the extent to which their assets have been re-hypothecated, or about the treatment in case of bankruptcy. For example, uncertainty may increase the possibility of a run on a prime-broker if there are concerns about its credit worthiness.

- To the extent that the client has no offsetting indebtedness to the financial institution, the contractual obligation to return equivalent securities is akin to an unsecured obligation in some jurisdictions. The financial institution can in turn re-use those securities, e.g. as collateral to borrow money in the wholesale markets.
- The policy goal is to reduce financial stability risks arising from client uncertainty about the extent to which assets have been re-hypothecated and the treatment in case of bankruptcy, and to limit re-hypothecation of client assets (without an offsetting indebtedness) to financial intermediaries subject to adequate regulation of liquidity risk.

(iv) Interconnectedness arising from chains of transactions involving the re-use of collateral

- Large exposures amongst financial institutions create a risk of direct contagion.
- Secured financing transactions typically involve small direct exposures as the process of daily variation margining largely or entirely offsets the contractual liabilities of the two parties, unless the default of a counterparty coincides with a large movement in collateral valuations, or if netting agreements are not legally enforceable.
- The policy goal is to reduce (i) the risk of financial contagion and (ii) opacity.

(v) Inadequate collateral valuation practices

- When the prices of sub-prime mortgage-backed-securities (MBS) fell during the early stage of the financial crisis, a number of financial institutions failed to mark their positions to true market value (in part due to valuation uncertainty), and later revealed significant losses. Arguably, the decline in MBS prices would have caused a smaller disruption in the market had such price changes been reflected in balance sheets earlier and more gradually through continuous marking-to-market.
- The policy goal is to improve collateral valuation standards.

2. Policy recommendations related to improvement in transparency

Increased transparency has the potential to provide useful information to authorities that can help to detect and monitor risks as they unfold, but different types of data may be needed for each case. In collecting more data, regulators should also endeavour to provide aggregate data to the public wherever possible and informative.

2.1 Improvement in regulatory reporting

Securities lending and repo markets allow financial institutions to build direct exposures to each other. This can create two potential risks:

- The failure of a large institution could destabilise one or more of its counterparties and possibly the broader markets in which it is active; and
- A large financial institution could suffer a liquidity shortage during a period of market stress due to an excessively short maturity profile of its financing.

In order to be able to detect such risks, authorities need to augment their data collection so as to capture more granular information on securities lending and repo exposures between financial institutions, including the composition of the underlying collateral (see Annex 2). This would enable authorities to detect concentrations of risk, such as large exposures to particular institutions and heavy dependence on particular collateral asset classes. Such efforts could leverage on international initiatives such as the FSB Data Gaps Group that is currently aiming to provide a consistent framework to pool and share relevant data on the major bilateral linkages between large international financial institutions, and on their common exposures to and funding dependencies on countries, sectors and financial instruments.

Recommendation 1: Authorities should collect more granular data on securities lending and repo exposures amongst large international financial institutions with high urgency. Such efforts should to the maximum possible extent leverage existing international initiatives such as the FSB Data Gaps Group, taking into account the enhancements suggested by the Workstream.

2.2 Improvement in market transparency

Sudden changes in behaviour by participants in securities lending and repo markets, triggered for example by the failure of a large institution, could destabilise one or more financial institutions that are particularly active in that market. For example:

- A sudden increase in repo haircuts could create a liquidity shortage for firms that rely heavily on this market for funding; and
- The sudden request to return cash collateral posted against borrowed securities could lead to large losses and fire sales if the instruments in which cash collateral has been invested become illiquid.

Thus, authorities are faced with the following question: Should behaviour in a given market segment change unexpectedly, how would the firms most active in that market be affected? WS5 has considered the market data that authorities would need to monitor the size and risk characteristics of securities lending and repo markets over time in order to detect financial stability risks and developed policy responses to address those risks. Box 1 below provides a list of data fields that WS5 thinks would be useful.

**Box 1: Proposed information items for enhancing transparency/disclosure
in securities lending and repos**

For repo markets:

Transaction level data (could be collected by a trade repository (TR) for each transaction):

- i. Principal amount in cash
- ii. Currency
- iii. Collateral asset class

- iv. Repo rate
- v. Counterparty (ultimate counterparty if the repo is done on behalf of a client)
- vi. Haircut
- vii. Maturity date
- viii. First callable date

Firm-level data (could be collected through an official survey or regulatory reporting where a TR does not collect transaction level data):

- i. Size of book (value of cash legs)
- ii. Currency breakdown of transactions
- iii. Tenor composition by collateral asset class
- iv. Collateral composition by asset class
- v. Haircut ranges by collateral asset class
- vi. Breakdown of counterparties and concentration
- vii. For reverse repos: Type of collateral obtained and availability to re-hypothecate

Aggregate data (could be published on a regular basis, by aggregating trade-level data):

- i. Repo rates
- ii. Size of market activity (Value of cash leg)
- iii. Currency breakdown of transactions
- iv. Tenor composition by collateral asset class
- v. Collateral composition by asset class
- vi. Haircut ranges by collateral asset class
- vii. Breakdown of counterparties and concentration

For securities lending:

Transaction level data (could be collected by a TR for each transaction):

- i. Principal amount
- ii. Currency
- iii. Type and value of collateral (cash vs. non-cash; breakdown of non-cash by asset type)
- iv. Securities lending fee or rate, including breakdown of fee and cash reinvestment return
- v. (Ultimate) counterparty
- vi. Haircut
- vii. Maturity date
- viii. First callable date

Firm-level data (could be collected through an official survey or regulatory reporting where a TR does not collect transaction level data):

- i. Volume and value of securities on loan
- ii. Volume and value of securities available for lending
- iii. Currency breakdown
- iv. Breakdown of counterparties by type and concentration
- v. Tenor composition
- vi. Collateral composition (cash vs. non-cash; breakdown of non-cash by asset type)
- vii. Breakdown of fee and cash reinvestment return
- viii. Haircut ranges
- ix. Re-use and re-hypothecation data: share of collateral received that is re-used or re-hypothecated, compared to the maximum authorised amount if any, and whether it is

- restricted to some type of securities only
- x. Number of custodians where received collaterals are kept and the value of collateral assets held by each
 - xi. The way securities received by the counterparty are held, i.e. in segregated accounts or pooled accounts

Aggregate data (could be published on a regular basis, by aggregating trade-level data):

- i. Lending rates
- ii. Volume and value of securities on loan
- iii. Volume and value of securities available for lending
- iv. Currency breakdown
- v. Breakdown of counterparties by type and concentration
- vi. Tenor composition
- vii. Collateral composition (cash vs. non-cash; breakdown of non-cash by asset type)
- viii. Haircut ranges

For cash collateral reinvestment (also see disclosure requirements in section 3.2.3):

Aggregate as well as firm-level data (Periodic snapshot):

- i. Segregated or comingled account
- ii. Size of book
- iii. Maturity structure of loan book (WAM, WAL)
- iv. Breakdown of investment/asset types in reinvestment book
- v. Maturity structure of reinvestment book (by asset type)
- vi. Cash return on reinvestment portfolio (and which portion goes to beneficial owner vs agent)

These data could be collected in various ways, including through regulatory reporting, market surveys and trade repository (TR) (See Box 2). Although TRs are likely to be the most effective approach for collecting data comprehensively and in a timely manner, all three approaches could, in principle, deliver increased transparency to the public, standardisation, and scope.⁸

- Increased transparency to the public: Data suitable for release to the public would need to be aggregated and would represent a subset of what is collected, regardless of the approach.
- Standardisation and scope: In principle, standardisation of data reporting across jurisdictions, type of firms, market activity, and time need not depend on the way the data is collected or the type of data collected.⁹

⁸ The level of granularity available to regulators, however, would vary depending on the data collection approach chosen.

⁹ Surveys and regulatory reports are, in theory, also able to achieve the standardisation of data that is associated with TRs. However, this might be more difficult in practice. For example, the relative ease of changing surveys from reporting date to reporting date may make standardisation over time harder to achieve. Difficulties associated with coordinating different regulators may make standardising regulatory reporting complicated as well.

Box 2: Alternative ways to collect data

- (i) *Regulatory reporting*: Reports submitted by individual firms to their regulatory authorities. This could be done either as an amendment to existing reports or as a separate report.
- (ii) *Official survey*: Periodic questionnaire conducted by central banks, regulatory authorities or industry groups, covering all market participants.
- (iii) *Trade repository (TR)*: Database of trade level information covering all market activity. Could be populated either by a collection mechanism built into the post-trade clearing and settlement process or via frequent submission by market participants (The former approach may require infrastructure investment to establish an automated post-trade collection mechanism). TRs also involve extensive data processing and sorting in order to extract the high level data useful to regulators.

The FSB Data Gaps Group, which aims to provide a consistent framework to pool and share relevant data on the major bilateral linkages between large international financial institutions, has already done work on the legal and operational challenges of collecting data globally, and on discussing protocols under which the data may be shared among regulators. This work will be useful when considering the design of a survey, regulatory reports, or a TR.

The scope of data collection could vary by market. For securities lending, a single global TR or a few regional TRs may make sense, because this activity is more cross-border in nature. In contrast, repo markets operate largely at currency level. Harmonisation across repo data collection efforts would be desirable to facilitate comparability.

The practicalities of these different ways of collecting data need to be carefully considered, in consultation with market participants. Some implementation issues apply to all options (e.g. how to categorise different types of collateral securities for the purpose of reporting); others are particular to one option (e.g. whether it is possible to populate a TR by extracting data from a stage of the existing trade and settlement process). Annex 2 sets out further analysis of different approaches to data collection.

Recommendation 2: Trade repositories (TRs) are likely to be the most effective way to collect comprehensive repo and securities lending market data. The FSB should consult on the appropriate geographical and product scope of such TRs. The FSB should encourage national/regional authorities to undertake feasibility studies for the establishment of TRs for individual repo and securities lending markets, as well as coordinate and facilitate those efforts. Depending on the consultation findings on the appropriate geographical and product scope of TRs, the FSB should also establish a working group to identify the appropriate scope and undertake a feasibility study for one or more TRs at a global level. Such feasibility studies should involve market participants.

Recommendation 3: As an interim step, the FSB should coordinate a set of market-wide surveys by national/regional authorities to increase transparency for financial stability purposes and inform the design of TRs. Such market-wide surveys should make publicly

available aggregate summary information on securities lending and repo markets on a regular basis.

Q6. Do you agree with the information items listed in Box 1 for enhancing transparency in securities lending and repo markets? Which of the information items in Box 1 are already publicly available for all market participants, and from which sources? Would collecting or providing any of the information items listed in Box 1 present any significant practical problems? If so, please clarify which items, the practical problems, and possible proxies that could be collected or provided to replace such items.

Q7. Do you agree TRs would likely be the most effective way to collect comprehensive market data for securities lending and/or repos? What is the appropriate geographical and product scope of TRs in collecting such market data?

Q8. What are the issues authorities should be mindful of when undertaking feasibility studies for the establishment of TRs for repo and/or securities lending markets?

2.3 Improvement in corporate disclosures

Global financial institutions disclose information about their activity and exposures in the securities lending and repo markets publicly, in their regulatory filings and audited financial statements. However, WS5 found that such information falls well short of what regulators would ideally need in order to monitor the build-up of systemic risk in normal times and track its transmission between firms during a stress event. In particular, disclosures are somewhat lagged, often relatively aggregated, focused more on size than risk, and vary across firms and jurisdictions with respect to the level of detail. Disclosure is particularly poor in relation to transactions, such as collateral swaps, that do not involve cash.

WS5 believes that the following disclosures should be considered for recommendation to the relevant national and international standard-setting bodies. Enhancing disclosure standards to include these would improve investors' and authorities' visibility into institutions' activities in securities lending and repo markets. Consideration should be given to disclosure of a "sources and uses of securities collateral" statement that shows a breakdown of securities that can be delivered as collateral (e.g. securities borrowed, reverse repo securities, client assets with a right of use, collateral received on OTC derivatives) and uses of those securities as collateral (e.g. OTC derivatives, repo financing, securities borrowing, central counterparties (CCPs)). One option for disclosure of these information/data is additional footnotes to the firm's financial statements. Another option is a template for all firms modelled on the Basel Pillar 3 requirements for disclosure of securities lending and repo. It would also be useful to have more qualitative information disclosed by firms, where material.

- Counterparty concentration (for both securities lending and repo trades)
- Maturity breakdown of trades (separately for repo, reverse repo, securities lent, securities borrowed)
- Composition of securities lent and securities borrowed, and securities reversed in and repo-ed out
- Composition of collateral received against securities lent
- Information on collateral margins (for both securities lending and repo trades)

- Percentage of collateral pool reused, broken down by client vs. own activity
- Breakdown of activity done for own account and on behalf of customers, for securities lending and repo separately
- Amount of indemnifications provided as agent to securities lending clients, and maturity profile of those contingent liabilities where applicable
- Credit risk exposure broken down by securities lent, securities borrowed, repo and reverse repo

Recommendation 4: The FSB should work with standard setting bodies internationally to improve public disclosure requirements for financial institutions’ securities lending, repo and wider collateral management activities as needed, taking into consideration the items noted above.

Q9. Do you agree that the enhanced disclosure items listed above would be useful for market participants and authorities? Would disclosing any of the items listed above present any significant practical problems? If so, please clarify which items, the practical problems, and possible proxies that could be disclosed instead.

2.4 Improvement in reporting by fund managers to end-investors

Securities lending and repos are used extensively by fund managers in many jurisdictions for efficient portfolio management. They can be used either to fulfil investment objectives or for enhancing returns. However, since securities lending and repo allow fund managers to access leverage on their clients’ portfolios, appropriate information on such activities needs to be frequently disclosed by fund managers to investors in order to allow those investors to select their investments with due consideration of the risks taken by fund managers. In some cases, fund managers will in turn rely on reporting by lending agents (e.g. custodian banks) in order to provide this information to end-investors. WS5 recommends that the information that should be reported by fund managers to end-investors could include:

- Global data: the amount of securities on loan as a proportion of total lendable assets and of the fund’s assets under management (AUM); and the absolute amounts of the repo book and the reverse repo book.
- Concentration data: Top 10 collateral securities received by issuer, top 10 counterparties of repo and securities lending (sources of borrowed cash, if applicable), and top 10 counterparties of reverse repo (sources of borrowed securities).
- Repo and securities lending data breakdowns: by collateral type¹⁰, by currency, by maturity tenor¹¹, by geography (counterparty), cash versus non cash collateral, maturity of non-cash collateral and settlement/clearing (tri-party, CCP, bilateral).

¹⁰ At an appropriate level of detail: for example, for fixed income securities, the breakdown would give the share of government bond, investment grade non-financial corporate bonds, sub-investment grade non-financial corporate bonds, investment grade financial corporate bonds, sub-investment grade financial corporate bonds, covered bonds, ABS, RMBS, CMBS etc.

¹¹ Including open transactions.

- Reverse repo data breakdowns: by collateral type¹², by currency, by maturity tenor, by geography (counterparty), maturity of collateral.
- Re-use and re-hypothecation data: share of collateral received that is re-used or re-hypothecated, compared to the maximum authorised amount if any. Information on any restrictions on type of securities.
- Return data: split between the return from repos and securities lending and the return from cash collateral reinvestment.
- Number of custodians and the amount of assets held by each.
- The way securities received by the counterparty are held, i.e. in segregated accounts or pooled accounts.

Recommendation 5: Authorities should review reporting requirements for fund managers to end-investors in line with the proposal by the Workstream.

Q10. Do you agree that the reporting items listed above would be useful for investors? Would reporting any of the items listed above present any significant practical problems? If so, please clarify which items, the practical problems, and possible proxies that could be reported instead.

3. Policy recommendations related to regulation

3.1 Minimum haircuts

3.1.1 Key principles

Minimum regulatory haircuts for repos and securities financing transactions (whether bilateral, tri-party or CCP) may limit the build-up of excessive leverage and reduce procyclicality in the financial system via the financing of risky assets, in particular by entities not subject to prudential regulation.

3.1.2 Minimum standards for methodologies used by market participants to calculate haircuts

- (i) Haircuts should be based on the long-run risk of the assets used as collateral and be calibrated at a high confidence level to cover potential declines in collateral values during liquidation**

Haircut methodologies should be designed to limit their procyclical effects, i.e. to moderate the extent to which they decline in benign market environments (and thus mitigate the magnitude of the potential increase in volatile markets). Haircuts should be set to cover, at a high level of confidence, i.e. at least at a 95th percentile, one-tailed confidence interval, the maximum expected decline in the market price of the collateral asset, over a conservative liquidation horizon before a transaction can be closed out. Haircuts may be calculated either

¹² See footnote 10.

on a transaction level basis or at the collateral portfolio level depending on individual circumstances.

Haircut methodologies should not be based on a rolling short window, e.g. two years or less, of recent price data. Rather, the maximum price decline used to derive the applicable haircut should be calculated using a time series of price data that covers at least one stress period. If such historical data is either unavailable or unreliable, stress simulations or possibly data for other similar asset types as a proxy (including at least one stress period and with prudent adjustments made as appropriate) should be used. This recommendation goes beyond the current Basel III requirements for banks permitted to calculate regulatory haircuts using “repo VAR” models or “own estimates”, which require at least one year of data.

Where feasible, historical bid-ask spreads and pricing uncertainty should also be examined to consider the possibility that stressed market conditions may lead to a widening of bid-ask spreads.

The assumed liquidation horizon should be conservative, reflect the expected liquidity of the asset in stressed market conditions, and depend on the relevant market characteristics of the collateral, e.g. trading volumes and market depth.

(ii) Haircuts should capture other risk considerations where relevant

Haircuts should reflect primarily the risk of fluctuations in the collateral price, but also take into account other risk considerations, such as the risk of liquidating large concentrated positions, and the wrong-way risk between collateral value and counterparty default. Specific characteristics of the collateral, which include asset type, issuer creditworthiness, residual maturity, price sensitivity (such as modified duration), optionality, complexity of structure, expected liquidity in stressed periods and the frequency of collateral valuation and margining, should also be taken into account.

Where applicable, haircuts should factor in the foreign exchange risk in cases where there is a currency mismatch between the collateral and the counterparty exposure. The historical volatility of the exchange rate for the relevant currency pair, including in stress periods, should be used to determine the additional haircut required in such cases.

Potential correlation between the value of the collateral asset and the default of the counterparty should also be considered in order to mitigate potential “wrong-way risk”. The correlation between securities accepted as collateral and securities loaned in securities lending transactions should also be taken into account, where relevant.

Recommendation 6: Regulatory authorities should introduce minimum standards for the methodologies that firms use to calculate collateral haircuts. Those guidelines should seek to minimise the extent to which these methodologies are pro-cyclical. Standard setters (e.g. BCBS) should review existing regulatory requirements for the calculation of collateral haircuts in line with this recommendation.

Q11. Are the factors described in section 3.1.2 appropriate to capture all important considerations that should be taken into account in setting risk-based haircuts? Are there any other important considerations that should be included? How are the above considerations aligned with current market practices?

3.1.3 Numerical floors on haircuts

There is a case in principle for introducing a framework of binding numerical haircut floors on securities financing transactions alongside the minimum standards for haircut methodologies described in 3.1.2, especially for instruments with a potentially procyclical feature (e.g. corporate bonds and securitisation products). Such a framework would be intended to set a floor on the cost of secured borrowing against risky assets in order to limit the build-up of excessive leverage. It would need to be carefully designed and calibrated, taking account of possible unintended consequences. Public consultation findings and an assessment of the quantitative impact of such a framework should be used to help decide the most effective ways to achieve the policy objectives.

A framework for numerical floors on haircuts would apply at the transaction level for security-for-cash trades, including where market participants calculate haircuts on a portfolio basis. Importantly, any numerical floors would not be intended to dictate market haircuts, and market participants should conduct their own assessment as to the appropriate level of haircuts to apply in specific circumstances, considering all relevant risk factors.

WS5 discussed the relative merits of setting a single numerical floor for haircuts and a highly granular approach. Balancing simplicity with the need to avoid creating incentives to use risky collateral, WS5 agreed that any numerical floors should be risk-based, but not too granular, and that they should ideally not be based on credit ratings determined by credit rating agencies. WS5 was also of the view that basing numerical floors on a variant of the Basel III standard supervisory haircuts had the important benefit of consistency with capital rules and with the approach recommended by the BCBS-IOSCO working group on margining requirements (WGMR) for non-centrally cleared derivatives.

Two broad approaches to setting the level of numerical floors can be considered:

- (i) *High level* - The first would set numerical floors at relatively high levels that may typically be closer to actual market practices in normal times, which therefore would be more likely to be used in transaction activity.
- (ii) *Back-stop level* - An alternative would be to set numerical floors at a lower level, making clear that they are intended as a backstop to prevent excessive leverage.

In both approaches, market participants should be encouraged to determine their own, more granular risk-based haircut schedules, in accordance with the minimum standards, and to transact with higher haircuts than any numerical floors where prudent. A risk in both approaches is that numerical floors become *de-facto* market standards for haircuts.

(i) High level

The first option would be to set numerical floors at relatively high levels that may typically be closer to actual market practices in normal times. For instance, numerical floors under this approach could be similar to the standard supervisory haircuts for collateralised transactions (or secured funding transactions) in Basel III capital rules (table 1), which assume daily mark-to-market, daily re-margining, a 10-business day holding period, and aim to cover 99% of potential losses based on historic data. In effect, for banks applying this approach, it would replace the current requirement to hold capital against counterparty risk where haircuts are lower than those in table (i) – option 1 (high level) – with a prohibition on transactions with haircuts lower than those in table (i).

This approach would be broadly consistent with the standardised haircuts schedule proposed by the WGMR for non-centrally cleared derivatives. Since market participants may be able to use total return swaps and other derivatives to create transactions that are economically equivalent to repos (or securities-against-cash transactions), it is important to take into account the proposed haircuts schedule for non-centrally cleared derivatives when calibrating the numerical floors for securities-against-cash transactions. However, it is also important to note the differences between the two proposals: (i) the WGMR proposal aims to promote central clearing of OTC derivatives, which is not the case with the proposed numerical floors for securities-against-cash transactions; (ii) there are differences in the margining practices between derivatives and securities-against-cash transactions; and (iii) contrary to the haircuts on securities-financing transactions, the WGMR recommends that initial margins be segregated. Given those differences, the proposed haircut schedules for non-centrally cleared derivatives and securities financing transactions do not necessarily need to be identical in order to be compatible.

Under the Basel III framework, repo transactions between banks and core market participants that satisfy certain conditions such as both the exposures and collateral are cash or sovereign security qualifying for a 0% risk-weight under the Standardised Approach may be subject to a carve out treatment (i.e. 0% haircut) if supervisors in a given jurisdiction choose to do so.

Numerical floors for securities-against-cash transactions – Option 1 (High level)			
Residual maturity of collateral	Haircut level		
	Sovereign	Corporate and other issuers	Securitised products
≤ 1 year debt securities, and FRNs	0.5%	1%	2%
> 1 year, ≤ 5 years debt securities	2%	4%	8%
> 5 years debt securities	4%	8%	16%
Main index equities	15%		
Other equities	25%		
UCITS/Mutual funds	Look-through or highest haircut applicable to any security in which the fund can invest		

This approach would place a stronger limit on the potential build-up of excessive leverage. But it is likely to have a potentially large negative impact on the liquidity of the repo and secondary markets for the affected securities if transactions currently take place at haircuts below the required levels. It will also reduce incentives for market participants to conduct their own haircut calculations with a risk that the numerical floors become de facto market standards. Furthermore, the simplicity of the proposed table may create distortions in markets (e.g. incentives to use collateral securities at the longest maturities or highest credit risk allowed within each bucket) and consequent pressure to move to a more granular and complex approach. It may also lead to an increased recourse to central bank refinancing operations if central bank haircut schedules are lower.

(ii) Back-stop level

The second option would be to set numerical floor framework at a level below the haircuts that would be used by a prudent market participant in normal times, but above the level to which haircuts declined at the height of the 2000s boom. WS5 proposes to consult on how to calibrate an appropriate set of haircut levels. As an illustration, the table below shows the numerical floors set at 50% of the Basel III standard supervisory haircuts. In effect, for banks applying the standard supervisory haircut approach, it would prohibit transactions with haircuts lower than those in table (ii) – option 2 (backstop level) - and require capital against counterparty risk where haircuts are higher than those in table 2 but lower than the Basel standard supervisory haircuts.

This option would introduce a backstop against the build-up of excessive leverage while maintaining stronger incentives than in option 1 for market participants to conduct their own analysis of the appropriate level of haircuts, following the minimum standards set out above. However, this approach would leave more scope for pro-cyclical variations in actual haircuts; and if these numerical floors became a *de facto* market standard (in spite of our advice to the contrary), that would clearly be imprudent.

Numerical floors for securities-against-cash transactions – Option 2 (<i>Backstop level, 50% of option 1</i>)			
Residual maturity of collateral	Haircut level		
	Sovereign	Corporate and other issuers	Securitised products
≤ 1 year debt securities, and FRNs	0.25%	0.5%	1%
> 1 year, ≤ 5 years debt securities	1%	2%	4%
> 5 years debt securities	2%	4%	8%
Main index equities	7.5%		
Other equities	12.5%		
UCITS/Mutual funds	Look-through or highest haircut applicable to any security in which the fund can invest		

As noted, the proposed numerical floors above are based on the standard supervisory haircuts included in Basel III as a starting point (but without references to credit ratings). Should the BCBS make modifications to this standardised schedule subsequent to implementation by local authorities, these changes could be adopted by local authorities.

Recommendation 7: In principle, there is a case for introducing a framework of numerical floors on haircuts for securities financing transactions where there is material procyclicality risk. Such floors would work alongside minimum standards for the methodologies that firms use to calculate collateral haircuts. However, the FSB should be mindful of possible unintended consequences for market liquidity and the functioning of markets. The FSB should consult on whether a framework of numerical floors would be effective and workable in achieving the policy objectives. This would include consultation on the levels and the scope of application of such framework by counterparty, collateral, and transaction type (see sections 3.1.4 - 3.1.5).

Q12. What do you view as the main potential benefits, the likely impact on market activities, and possible unintended consequences of introducing a framework of numerical haircut floors on securities financing transactions where there is material procyclicality risk? Do the types of securities identified in Options 1 and 2 present a material procyclical risk?

Q13. Do you have a view as to which of the two approaches in section 3.1.3 (option 1 – high level – or option 2 – backstop) is more effective in reducing procyclicality and in limiting the build-up of excessive leverage, while preserving liquid and well-functioning markets?

Q14. Are there additional factors that should be considered in setting numerical haircut floors as set out in section 3.1.3?

Q15. In your view, how would the numerical haircut framework interact with model-based haircut practices? Also, how would the framework complement the minimum standards for haircut methodologies proposed in section 3.1.2?

3.1.4 Scope of application of numerical floors

WS5 has identified a number of different options for the scope of application of numerical floor framework, according to the nature of the transaction, the counterparties involved and the collateral type.

(i) Transaction type

WS5 recommends that any numerical floors should apply only to securities financing transactions where the primary motive is financing, rather than to lend/borrow specific securities, consistent with the key principle of limiting the build-up of excessive leverage in the financial system. This should also help mitigate the potential negative impact of minimum haircuts on the liquidity and functioning of securities lending and other related markets, in particular in cases where current regulation prohibits certain types of securities lenders from lending without receiving haircuts.¹³ In this regard, there should be a carve-out for cash collateralised securities borrowing transactions.

WS5 proposes to exclude cash collateralised securities borrowing transactions where (i) the purpose of the transaction is to borrow the specific securities and (ii) the lender of the securities reinvests the cash collateral into a separate reinvestment fund and does not use it to finance the assets being lent.

One obvious way to circumvent a numerical floor requirement would be to structure a financing repo as a combination of a collateral “upgrade” swap and a repo of less risky securities against cash: for example main index equities could be swapped for under-one-year corporate debt securities that could then be repo-ed with a lower numerical haircut floor. In order to prevent such circumvention, numerical floors would also need to apply to collateral swaps. Logically 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. For example, using the Basel III haircuts in table 1 for illustration, the haircut floor on the

¹³ In securities lending transactions collateralised by cash, the haircut is usually applied on the cash (i.e. the haircut goes the other way) in order to protect the securities lender (this is sometimes a regulatory requirement), unlike in repo transactions where the haircut is typically applied on the securities. Hence, such securities lending transactions should be exempt from numerical floors on haircuts so as to preserve the functioning of this market segment.

collateral swap in the previous example would be 14%, i.e. the floor for main index equities of 15% less the floor for under-one-year corporate debt securities of 1%. This extension of the framework clearly adds complication but WS5 thinks it is unavoidable if the proposal is to be workable to reduce the risk of regulatory arbitrage.

(ii) Counterparty type

There are three main possibilities for the scope of the numerical haircut floor regime by counterparty type:

- (i) apply the numerical floors to all qualifying transactions between all types of counterparties, so that **all market participants** are equally subject to these floors;
- (ii) allow financing of regulated financial intermediaries (e.g. banks, broker-dealers) to be excluded on the grounds that they are already subject to direct appropriate regulation of liquidity and leverage. That would leave the numerical floors to apply to **exposures of regulated financial intermediaries to other entities and exposures amongst other entities**; and
- (iii) focus only on **the exposures of regulated financial intermediaries to other entities** which would make implementation the more straightforward.

The choice of which these approach to follow might depend on the relative weight that authorities would give to the following objectives:

- *Limiting excessive leverage in the financial system*: Arguably both approaches (i) and (ii) achieve this objective as regulated financial intermediaries are already subject to direct regulatory controls on liquidity and leverage. Option (iii) may also achieve it if transactions wholly outside the regulated financial system remain insignificant;
- *Limiting procyclicality of haircuts*: Arguably only option (i) achieves this objective across the entire financial system, whereas options (ii) and (iii) would achieve the objective for the sub-set of the financial system that is captured by the intended scope;
- *Controlling leverage and procyclicality in transactions that do not involved regulated financial intermediaries*: Only options (i) and (ii) address this consideration. At present, the extent of transactions not covered by option (iii) is probably small but it could become bigger with increases in regulatory requirements on financial intermediaries and it is at the heart of shadow banking;
- *Ease of implementation*: Option (iii) is by far the most straightforward option to implement (see section 3.1.5); and
- *Limiting the potential negative impact on the liquidity of the repo market at the short end of the money market curve and related possible impairment to central bank refinancing operations*: option (ii) addresses this concern.

(iii) Collateral type

WS5 members had different views on whether numerical haircut floors should apply to sovereign (government) bond collateral. Arguments made in favour of their inclusion were:

- sovereign bonds are subject to default risk, even in domestic currency, and thus can have procyclical risk premia; and
- financial system leverage can build up against sovereign bond collateral.

Arguments made in favour of their exclusion were:

- “risk free” rates are not procyclical so the price behaviour of sovereign bonds tend not to be procyclical unless default risk premia become significant;
- sovereign bond repo markets are core funding markets in most jurisdictions and can be central to the monetary policy transmission mechanism; and
- the exclusion of sovereign bond repos would be consistent with the existing carve-out in Basel III rules between banks and core market participants that satisfy certain conditions (see section 3.1.3).

Members were more willing to consider including sovereign bond collateral if the scope of the regime excludes exposures to and amongst financial intermediaries (see Section 3.1.4 (ii)).

Q16. In your view, what is the appropriate scope of application of a framework of numerical haircut floors by: (i) transaction type; (ii) counterparty type; and (iii) collateral type? Which of the proposed options described above (or alternative options) do you think are more effective in reducing procyclicality risk associated with securities financing transactions, while preserving liquid and well-functioning markets?

Q17. Are there specific transactions or instruments for which the application of the numerical haircut floor framework may cause practical difficulties? If so, please explain such transactions and suggest possible ways to overcome such difficulties.

Q18. In your view, how should the framework be applied to transactions for which margins are set at the portfolio basis rather than an individual security basis?

3.1.5 Implementation

WS5 thinks that a framework of numerical floors on haircuts (if introduced) should be put in place on an ongoing basis, as it would be difficult to introduce them quickly and consistently across jurisdictions in response to signs of over-heating and excessive leverage. However, the ability to raise the numerical floors beyond the initial levels could be used as a macro-prudential tool by the relevant authorities. Further work would be required to refine how countercyclical changes in minimum haircuts could be implemented as a macro-prudential tool (such as on the conditions/triggers for considering such changes, and the magnitude of the changes).

WS5 highlights the potential for market participants to seek to avoid these requirements by booking transactions in different jurisdictions, which can be done relatively easily in these markets. It is therefore highly desirable that any decision is implemented globally. Derivatives (e.g. total return swaps) can also be used to achieve similar economic objectives as repo and securities lending transactions (and possibly vice-versa). It is therefore desirable to harmonise implementation guidelines and numerical floors with the proposed regulation of non-centrally cleared derivatives. The FSB has sought to be consistent with the proposals of the WGMR. One issue that will need to be resolved is how numerical haircut floors applied at a transaction level work in cases where margin is calibrated on a portfolio basis (e.g. prime brokers). As

noted above, another issue is how “repos where financing is the primary motive” could be separated from “securities lending transactions against cash where the primary motive is to borrow specific securities” in practice. The FSB believes that market consultation will be particularly useful to address such aspects of any numerical floor proposals.

There are two possible approaches to implement numerical haircut floors: via the regulation of individual firms or via market/product regulation.

Option 1: Firm-specific regulation – Numerical haircut floors may be implemented effectively through the regulation of individual financial institutions, as very few transactions will have unregulated entities on both sides. Thus, it may be sufficient to indirectly reach unregulated entities via the interaction of those firms with regulated entities, unless there is evidence that a material subset of the market consists of transactions between two unregulated entities. Careful ongoing monitoring of securities financing markets will be important to guard against a market between unregulated entities growing overtime to avoid the regulations. This ongoing monitoring would be aided by enhanced transparency (see section 2).

Option 2: Market regulation – An alternative could be to implement numerical haircut floors via market-wide regulation, so that any entity transacting in those markets would be subject to the same regulatory requirement. This approach has the broadest scope and would target the twin objectives of limiting excessive leverage in the financial system and reducing procyclicality of haircuts, but is likely to be more difficult to implement and may overlap or conflict with prudential regulation.

3.2 Cash collateral reinvestment

3.2.1 Key principles

The proposed minimum standards for cash collateral reinvestment by securities lenders or their agents should focus on limiting risks arising from cash collateral reinvestment, in particular liquidity risk.

3.2.2 Scope of application

Given the global nature of securities lending activity, the proposed minimum standards should ideally apply across all jurisdictions and economically equivalent activities in order to limit opportunities for regulatory arbitrage. These minimum standards should apply to all financial entities that are engaged, with or without an agent, in securities lending against cash collateral where the cash collateral is reinvested in a portfolio of assets. Those institutions can include, but are not limited to, pension funds, mutual funds, and insurance companies.

In implementing the minimum standards, jurisdictions may need to take into account jurisdiction-specific circumstances while maintaining international consistency to address common risks and to avoid creating cross border arbitrage opportunities.

3.2.3 Draft proposed requirements

The proposed minimum standards include: high level principles; considerations addressing liquidity risk, maturity transformation, concentration and credit risks; implementation

guidelines (including recommended metrics for supervisory reporting and monitoring); stress testing and disclosure requirements.

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, consider whether the firm holds assets that are sufficiently liquid to meet reasonably foreseeable recalls, and take measures to manage the associated liquidity risk.
- 1.2 Securities lending cash collateral reinvestment should be conducted with one of the primary objectives being capital preservation. In particular, cash collateral reinvestment guidelines should take into account whether unexpected 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 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, including¹⁴:

¹⁴ Some requirements may not be necessary if (a) is set very conservatively.

- a. *A minimum portion of the cash collateral to be kept in short-term deposits, 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.*¹⁵

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, maximum which 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.
- 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:

¹⁵ 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 complement 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 pre-payment, credit or liquidity risks in a portfolio.

- *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.*

Recommendation 8: Regulatory authorities for non-bank entities that engage in securities lending (including securities lenders and their agents) should implement regulatory regimes meeting the proposed minimum standards for cash collateral reinvestment in their jurisdictions to limit liquidity risks arising from such activities.

Q19. Do you agree with the proposed minimum standards for the reinvestment of cash collateral by securities lenders, given the policy objective of limiting the liquidity and leverage risks? Are there any important considerations that the FSB should take into account?

3.3 Requirement on re-hypothecation

“Re-hypothecation” and “re-use” of securities are terms that are often used interchangeably; they do not have distinct legal interpretations. WS5 finds it useful to define “re-use” as any use of securities delivered in one transaction in order to collateralise another transaction; and “re-hypothecation” more narrowly as re-use of client assets.

Re-use of securities can be used to facilitate leverage. WS5 notes that if re-used assets are used as collateral for financing transactions, they would be subject to the proposals on minimum haircuts in section 3.1 intended to limit the build-up of excessive leverage, subject to decisions taken on the counterparty scope and collateral type (sections 3.1.4 (ii) and 3.1.4 (iii), respectively).

WS5 believes more safeguards are needed on re-hypothecation of client assets:

- Financial intermediaries should provide sufficient disclosure to clients in relation to re-hypothecation of assets so that clients can understand their exposures in the event of a failure of the intermediary. This could include, daily, the cash value of: the maximum amount of assets that can be re-hypothecated, assets that have been re-hypothecated and assets that cannot be re-hypothecated, i.e. they are held in safe custody accounts.

- Client assets may be re-hypothecated by an intermediary for the purpose of financing client long positions and covering short positions, but they should not be re-hypothecated for the purpose of financing the intermediary’s own-account activities.
- Only entities subject to adequate regulation of liquidity risk should be allowed to engage in the re-hypothecation of client assets.

Harmonisation of client asset rules with respect to re-hypothecation is, in principle, desirable from a financial stability perspective in order to limit the potential for regulatory arbitrage across jurisdictions. Such harmonised rules could set a limit on re-hypothecation in relation to client indebtedness. WS5 thinks that it was not in a position to agree on more detailed standards on re-hypothecation from the perspective of client asset protection. Client asset regimes are technically and legally complex and further work in this area will need to be taken forward by expert groups.

Recommendation 9: Authorities should ensure that regulations governing re-hypothecation of client assets address the following principles:

- **Financial intermediaries should provide sufficient disclosure to clients in relation to re-hypothecation of assets so that clients can understand their exposures in the event of a failure of the intermediary;**
- **In jurisdictions where client assets may be re-hypothecated for the purpose of financing client long positions and covering short positions, they should not be re-hypothecated for the purpose of financing the own-account activities of the intermediary; and**
- **Only entities subject to adequate regulation of liquidity risk should be allowed to engage in the re-hypothecation of client assets.**

Recommendation 10: An appropriate expert group on client asset protection should examine possible harmonisation of client asset rules with respect to re-hypothecation, taking account of the systemic risk implications of the legal, operational, and economic character of re-hypothecation.

<i>Q20. Do you agree with the principles set out in Recommendation 9?</i>

3.4 Minimum regulatory standards for collateral valuation and management

WS5 proposes the following principles on collateral valuation and management by market participant as “minimum regulatory standards” for authorities to implement in national regulations and/or supervision:

1. Securities lending and repo market participants (and, where applicable, their agents) should only take collateral types that they are able following a counterparty failure to: (i) hold outright without breaching laws or regulations; (ii) value; (iii) risk manage; and (iv) liquidate in an orderly way.
2. Securities lending and repo market participants (and, where applicable, their agents) should have contingency plans for the failure of their largest market counterparties, including in times of market stress. These plans should include how they would manage the collateral following default.

3. Collateral and lent securities should be marked to market at least daily and variation margin collected at least daily where amounts exceed a minimum acceptable threshold.

Recommendation 11: Authorities should adopt minimum regulatory standards for collateral valuation and management for all securities lending and repo market participants.

Q21. Do you agree with the proposed minimum standards for valuation and management of collaterals by securities lending and repo market participants? Are there any additional recommendations the FSB should consider?

4. Policy recommendations related to structural aspects of the securities financing markets

4.1 Central clearing

Many securities and derivatives markets are served by a central counterparty (CCP). In a centrally cleared market, participants have exposures to a CCP instead of bilateral exposures to each other, provided they are direct members of the CCP. Such arrangements reduce the interconnectedness of the financial system through multilateral netting. In addition, CCPs may improve authorities' access to market data given that transactions are typically standardised and data can be processed centrally.

While CCPs can bring advantages to most market segments, such as more robust collateral and default management processes, other benefits and costs of CCPs vary across market segments and jurisdictions. In the inter-dealer repo market, there is great potential to reduce the size of credit exposures through multilateral netting as dealers often have offsetting trades among themselves. Dealers also have incentives to use CCPs to achieve balance sheet netting and lower capital requirements. In the dealer-to-customer repo market, however, the netting potential is limited as transactions are more often "one-way", and small institutions are likely to find central clearing costly given the need to pay clearing fees or margins. Potential participants may also not fully take into account the possibility of system-wide risk reduction benefits in times of market stress.

In addition, for repos of less liquid securities, central clearing is practically difficult as CCPs may not be able to properly value and manage the collateral. The use of CCPs can also lead to moral hazard problems since market participants have less incentive to manage collateral risk if the trades are centrally cleared, and this may leave the CCP in a difficult position as the main provider of financing to its selected counterparties when other market participants reduce lines because of credit concerns.

WS5 believes that there may be a case for welcoming the establishment and wider use of CCPs for inter-dealer repos against safe collateral (i.e. government securities). However, existing incentives to use CCPs in these markets seem sufficiently strong (e.g. balance sheet netting) and no further regulatory or other actions appear necessary.

Meanwhile, WS5 thinks that in the other market segments, the pros and cons are more broadly balanced or may vary based on the market structure and institutional set-up specific to various jurisdictions. Hence, it may not be desirable to encourage the use of CCPs in every

case, and national/regional authorities should evaluate the costs and benefits of CCPs in their particular markets.

Recommendation 12: Authorities should evaluate the costs and benefits of proposals to introduce CCPs in their securities lending and repo markets, especially in cases where important funding providers in the repo market are currently not participating in existing CCPs.

4.2 Changes to bankruptcy law treatment of repo and securities lending transactions

Under the bankruptcy law in a number of jurisdictions (e.g. US and EU members), repos are exempt from the “automatic stay”. Upon the bankruptcy of a financial institution, its repo counterparties are allowed to exercise contractual rights to terminate the contract, set off remaining mutual debts and claims, and liquidate and collect against any collateral held, instead of having to wait for the bankruptcy proceedings to conclude. This special treatment, part of the “safe harbour”, was intended to reduce the contagion risk in the repo market.

However, since the financial crisis, a number of academics have argued that the “safe harbour” status of repos may in fact increase systemic risk, because it can: (i) increase the “money-likeness” of repos and result in a rapid growth in cheap and potentially unstable short-term funding; (ii) facilitate the fire sales of collateral upon default; and (iii) reduce creditors’ incentives to monitor the credit quality of repo counterparties.

Policy proposals in relation to bankruptcy law include the following:

- (i) Repos backed by risky or illiquid collateral should not be exempt from automatic stay¹⁶;
- (ii) Repos backed by risky or illiquid collateral should be exempt from automatic stay subject to a tax, which could be varied as a macro-prudential tool¹⁷; and
- (iii) Repos backed by risky or illiquid collateral should not be exempt from automatic stay. In the event of default, lenders of such repos should instead be able to sell collateral only to a “Repo Resolution Authority (RRA)” at market prices minus pre-defined haircuts specified by asset class by the RRA. Then the RRA would seek to liquidate the collateral in an orderly manner. The eventual difference between the amount of the liquidity payment and the realised value of the collateral would be paid to the repo lenders or clawed back from them. The pre-defined haircuts set by the RRA should effectively act as a floor on market haircuts.¹⁸

WS5 believes that these policy proposals, while theoretically viable in addressing some financial stability issues, can involve substantial practical difficulties, particularly the need for fundamental changes in bankruptcy law, and therefore should not be prioritised for further work at this stage.

¹⁶ See, for example, Duffie, Darrel and David Skeel (2012), *A Dialogue on the Costs and Benefits of Automatic Stays for Derivatives and Repurchase Agreements*, Stanford University Working Paper No. 108.

¹⁷ See, for example, Perotti, Enrico (2010), *Systemic liquidity risk and bankruptcy exceptions*, CEPR Policy Insight No. 52.

¹⁸ See Acharya, Viral and T. Sabri Öncü (2012), *A Proposal for the Resolution of Systemically Important Assets and Liabilities: The Case of the Repo Market* for details.

Recommendation 13: Changes to bankruptcy law treatment and development of Repo Resolution Authorities (RRAs) may be viable theoretical options but should not be prioritised for further work at this stage due to significant difficulties in implementation.

Q22. Do you agree with the policy recommendations on structural aspects of securities financing markets as described in sections 4.1 and 4.2 above?

Annex 1: Proposed policy recommendations on securities lending and repos

Recommendation 1: Authorities should collect more granular data on securities lending and repo exposures amongst large international financial institutions with high urgency. Such efforts should to the maximum possible extent leverage existing international initiatives such as the FSB Data Gaps Group, taking into account the enhancements suggested by the Workstream.

Recommendation 2: Trade repositories (TRs) are likely to be the most effective way to collect comprehensive repo and securities lending market data. The FSB should consult on the appropriate geographical and product scope of such TRs. The FSB should encourage national/regional authorities to undertake feasibility studies for the establishment of TRs for individual repo and securities lending markets, as well as coordinate and facilitate those efforts. Depending on the consultation findings on the appropriate geographical and product scope of TRs, the FSB should establish a working group to identify the appropriate scope and undertake a feasibility study for one or more TRs at a global level. Such feasibility studies should involve market participants.

Recommendation 3: As an interim step, the FSB should coordinate a set of market-wide surveys by national/regional authorities to increase transparency for financial stability purposes and inform the design of TRs. Such market-wide surveys should make publicly available aggregate summary information on securities lending and repo markets on a regular basis.

Recommendation 4: The FSB should work with standard setting bodies internationally to improve public disclosure requirements for financial institutions' securities lending, repo and wider collateral management activities as needed, taking into consideration the items noted above.

Recommendation 5: Authorities should review reporting requirements for fund managers to end-investors in line with the proposal by the Workstream.

Recommendation 6: Regulatory authorities should introduce minimum standards for the methodologies that firms use to calculate collateral haircuts. Those guidelines should seek to minimise the extent to which these methodologies are pro-cyclical. Standard setters (e.g. BCBS) should review existing regulatory requirements for the calculation of collateral haircuts in line with this recommendation.

Recommendation 7: In principle, there is a case for introducing a framework of numerical floors on haircuts for securities financing transactions where there is material procyclicality risk. Such floors would work alongside minimum standards for the methodologies that firms use to calculate collateral haircuts. However, the FSB should be mindful of possible unintended consequences for market liquidity and the functioning of markets. The FSB should consult on whether a framework of numerical floors would be effective and workable in achieving the policy objectives. This would include consultation on the levels and the scope of application of such framework by counterparty, collateral, and transaction type (see sections 3.1.4 - 3.1.5).

Recommendation 8: Regulatory authorities for non-bank entities that engage in securities lending (including securities lenders and their agents) should implement regulatory regimes meeting the proposed minimum standards for cash collateral reinvestment in their jurisdictions to limit liquidity risks arising from such activities.

Recommendation 9: Authorities should ensure that regulations governing re-hypothecation of client assets address the following principles:

- Financial intermediaries should provide sufficient disclosure to clients in relation to re-hypothecation of assets so that clients can understand their exposures in the event of a failure of the intermediary;
- In jurisdictions where client assets may be re-hypothecated for the purpose of financing client long positions and covering short positions, they should not be re-hypothecated for the purpose of financing the own-account activities of the intermediary; and
- Only entities subject to adequate regulation of liquidity risk should be allowed to engage in the re-hypothecation of client assets.

Recommendation 10: An appropriate expert group on client asset protection should examine possible harmonisation of client asset rules with respect to re-hypothecation, taking account of the systemic risk implications of the legal, operational, and economic character of re-hypothecation.

Recommendation 11: Authorities should adopt minimum regulatory standards for collateral valuation and management for all securities lending and repo market participants.

Recommendation 12: Authorities should evaluate the costs and benefits of proposals to introduce CCPs in their securities lending and repo markets, especially in cases where important funding providers in the repo market are currently not participating in existing CCPs.

Recommendation 13: Changes to bankruptcy law treatment and development of Repo Resolution Authorities (RRAs) may be viable theoretical options but should not be prioritised for further work at this stage due to significant difficulties in implementation.

Annex 2: Different approaches to data collection

Data could be collected through (i) a regulatory report, (ii) an official survey, or a trade repository (TR). Standardisation of the information collected is important to make it comparable across national markets and get a broad picture of the activity in securities lending and repo markets as they become more global.

Definitions

- (i) Regulatory report: Reports submitted by individual firms to their regulatory authorities. Could be done either as an amendment to existing report or as a separate report.
- (ii) Official survey: Periodic questionnaire conducted by trade associations or regulatory authorities, covering all market participants.
- (iii) Trade repository (TR): database of trade level information covering all market activity. Could be populated either by a collection mechanism built into the post-trade clearing and settlement process or via submission by market participants. (The former approach may require infrastructure investment to establish a post-trade collection mechanism.)

In principle, all three approaches could achieve similar desirable outcomes regarding increases transparency to the public, standardisation, and scope.

- Increased transparency to the public: Data suitable to be released to the public would need to be aggregated and would represent a subset of what is collected, regardless of the approach.
- Standardisation and scope: In principle, standardisation of data reporting across jurisdictions, type of firms, market activity, and time need not depend on the way the data is collected or the type of data that is collected.¹⁹

The FSB Data-Gap Group, which aims at providing a consistent framework to pool and share relevant data on the major bilateral linkages between large international financial institutions, has already done some work on the legal and operational challenges of collecting data globally, and on discussing protocols under which the data may be shared among regulators. This work could be useful when considering the design of a survey, regulatory reports, or a TR.

Scope

The scope of data collection could depend on the market considered. For securities lending, a single TR is likely to make the most sense, because this activity is more global in nature. In contrast, repo markets operate at the currency level so that data collection market by market

¹⁹ Surveys and regulatory reports are, in theory, also able to achieve the standardization of data that is associated with TRs. However, this might be more difficult in practice. For example, the relative ease of changing surveys from reporting date to reporting date may make standardization over time harder to achieve. Difficulties associated with coordinating different regulators may make standardizing regulatory reporting complicated as well.

may work best. Harmonisation across repo data collection efforts would be desirable to facilitate comparability.

Comparison of approaches to data collection

The main differences between regulatory reports, a survey, and a TR can be captured by two key trade-offs

- Flexibility vs. Consistency: Surveys are more flexible than either regulatory reports or a TR, as they can more easily be changed over time. However, changes make the data less consistent and therefore harder to compare over time.
- Comprehensiveness/timeliness vs. Cost: TRs gather data more frequently and with more granularity than regulatory reports, which in turn gather more data than surveys. Generally the cost to collect and maintain data increases with the amount and frequency of data gathered, both for regulators and market participants. However, additional data allows for a deeper understanding of market functioning, may provide more timely insights into the build-up of risks, and can be useful if unforeseen questions arise.

The table below summarises these trade-offs:

	Regulatory report	Survey	Trade repository
Pros	<ul style="list-style-type: none"> • Could be low cost if added to existing reporting requirements 	<ul style="list-style-type: none"> • Relatively low cost to implement • Relatively easy to change over time • Spans all market participants regardless of regulator 	<ul style="list-style-type: none"> • Provides more timely information if collected in an automated manner • Provides more frequent information and facilitates timely monitoring of market developments • Spans all market participants regardless of regulator
Cons	<ul style="list-style-type: none"> • Reporting is typically at a considerable time lag • Difficult to implement for high frequency reporting • Difficult to harmonize across regulatory bodies within the same jurisdiction • May be costly to change if dependent on regulatory or legal action 	<ul style="list-style-type: none"> • Reporting is typically at a considerable time lag • Difficult to implement for high frequency reporting 	<ul style="list-style-type: none"> • Could be costly to implement • Could be complicated to change over time

The relative costs and benefits of a survey, regulatory reports, and a TR may differ across jurisdictions. For example, regulatory reports are less likely to be a desirable option in jurisdictions where securities lending and repo market participants are regulated by different agencies and coordination between these agencies might be challenging.

A TR is likely to be particularly useful in jurisdictions where the securities lending and repo markets have a diverse set of participants whose behaviour may not be well understood, or a relatively diverse mix of assets that are financed in the market. In such cases, trade-level data can be useful to understand how the market functions and how stress may manifest itself differently in different market segments. For example, had such data been available for the US repo market before the 2007-2009 financial crisis, it might have highlighted the relative propensity of lenders in the tri-party repo market to run. Trade level data could also have helped regulators identify the reliance of certain firms on short-term repos to finance illiquid and complex assets. This may have allowed regulators to identify firms that were particularly prone to funding difficulties in case of market disruptions. Better knowledge of the type of collateral financed in these markets and their quantities could have helped authorities design their policy responses.

By facilitating more comprehensive data collection, a TR provides regulatory authorities with the ability to analyse new and unforeseen risks as they arise. Regulatory reports, or surveys, could reliably provide regulatory authorities with appropriate information if the relevant question were known in advance. However, the aggregate information made available through regulatory reports or surveys may not be tailored to new risks as they emerge, making it difficult to identify these risks.

Since a TR could have significant upfront costs, and may be costly to change once established, care and time should be invested in the design of a TR. As a first step, authorities might wish to consider conducting a survey process, and learning from that, as a means to inform the optimal design of a TR. To the extent this approach is pursued, there is value in sharing lessons learned among regulatory authorities and central banks, to maximize the chance that all who pursue this move in a harmonised direction. Some authorities may decide that a survey suffices; others might progress to a TR with the benefit of experience and lessons from the survey approach.

Further exploration of a trade repository would build on the interest that is coalescing in Europe and the US for greater transparency into secured financing market activity:

- The Vice-President of the ECB has recently proposed a trade repository for repo transactions in the euro area.²⁰
- This initiative has been recently supported by a report of the European Parliament, which called for the creation by the ECB of a central EU database on euro repo transactions, and

²⁰ <http://www.ecb.int/press/key/date/2012/html/sp120427.en.html>

invited the European Commission to submit a legislative proposal for the creation of such a database by the end of 2013, after undertaking a feasibility study.²¹

- The US Office of Financial Research is presently pursuing greater transparency on the bilateral repo market.
- The Bank of England's Securities Lending and Repo Committee Working Group has recently indicated its interest in exploring a trade repository for securities lending and repo transactions.²²

²¹ <http://www.europarl.europa.eu/sides/getDoc.do?type=REPORT&reference=A7-2012-0354&format=XML&language=EN>

²² <http://www.bankofengland.co.uk/publications/Documents/speeches/2012/speech591.pdf>