FSB FINANCIAL STABILITY BOARD

Strengthening Oversight and Regulation of Shadow Banking

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

29 August 2013

Preface

Strengthening Oversight and Regulation of Shadow Banking

The Financial Stability Board (FSB) is publishing final policy documents on Strengthening Oversight and Regulation of Shadow Banking.

The FSB has focused on five specific areas in which 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 align the incentives associated with *securitisation*;

(iv) to dampen risks and pro-cyclical incentives associated with *securities financing transactions such as repos and securities lending* that may exacerbate funding strains in times of market stress; and

(v) to assess and mitigate systemic risks posed by *other shadow banking entities and activities*.

The documents published on 29 August 2013 comprise:[1]

- **An overview of policy recommendations**,[2] setting out the FSB's approach to addressing financial stability concerns associated with shadow banking, actions taken to date, and next steps.

- **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. (iv) above). It also includes consultative proposals on minimum standards for methodologies to calculate haircuts on non-centrally cleared securities financing transactions and a framework of numerical haircut floors.

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[1] As for area (i) above, the Basel Committee on Banking Supervision (BCBS) will develop policy recommendations by end-2013, with the exception of the work on the scope of prudential consolidation which is expected to be completed in 2014. Some of the proposed policy recommendations have been published for public consultation. Please see *Supervisory framework for measuring and controlling large exposures* (http://www.bis.org/publ/bcbs246.pdf) and *Capital requirements for banks' equity investments in funds* (http://www.bis.org/publ/bcbs257.pdf). As for areas (ii) and (iii) 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_130829a.pdf.

- **Policy framework for strengthening oversight and regulation of shadow banking entities.**[3] This document sets out the high-level policy framework to assess and address risks posed by "Other Shadow Banking" entities and activities (ref. (v) above).

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.[4] 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 regular 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 loss 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 policies in this area necessarily have to be comprehensive.

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[3] http://www.financialstabilityboard.org/publications/r_130829c.pdf.

[4] Based on such features, some authorities or market participants prefer to use other terms such as "market-based financing" instead of "shadow banking". The use of the term "shadow banking" is not intended to cast a pejorative tone on this system of credit intermediation. However, the FSB is using the term "shadow banking" as this is the most commonly employed and, in particular, has been used in the earlier G20 communications.

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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 2011,[5] 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, to strengthen regulation of securities lending and repos.

In November 2012, the FSB published its consultative document *A Policy Framework for Addressing Shadow Banking Risks in Securities Lending and Repos* which identified the financial stability issues (or shadow banking risks) in securities lending and repo markets, and set out 13 policy recommendations to address such risks. These included: improvements in regulatory reporting and market transparency; regulation of securities financing (e.g. minimum standards for methodologies used by market participants in calculating the "haircuts" (margins) that limit the amount of financing that can be provided against a given security and minimum standards on cash collateral reinvestment), as well as policy recommendations related to structural aspects of the securities financing markets such as central clearing. The FSB also invited views on the possible introduction of a framework of numerical haircut floors for certain securities financing transactions which are intended to limit the extent to which financial entities, including non-banks, can use securities financing transactions to obtain leverage. These measures, if appropriately implemented, would help counteract pro-cyclical fluctuations in securities financing.

Consultation responses were received from more than 50 respondents including trade associations representing both securities borrowers and lenders, intermediaries in the securities lending and repo markets, asset managers, market infrastructure providers and public authorities.[6] In general, the respondents agreed with the analysis of FSB but cautioned against possible negative impacts and unintended consequences on repo and securities lending markets that function as the core funding market for financial institutions and promote price discovery for other related markets.

In refining its policy recommendations, the FSB focused on addressing the financial stability issues as described in Section 1 of this document. The recommendations are based on issues discussed in the interim report *Securities Lending and Repos: Market Overview and Financial Stability Issues*[7] published in April 2012, but have been refined in order to sharpen the focus on shadow banking risks so as to clearly link the policy recommendations to the risks identified. In addition, the FSB 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. In particular, the FSB launched in April 2013 a two-stage quantitative impact assessment (or quantitative impact study - QIS) to assess the potential impact and unintended consequences associated with its recommendations on minimum haircut methodology standards and numerical haircut floors. The first stage of this

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

6 All comments received are published on the FSB website (http://www.financialstabilityboard.org/publications/c_130129.htm).

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

QIS took place in April-June 2013, and consisted of collecting detailed historical haircut data from a small pool of large financial intermediaries globally so as to calibrate the FSB's proposed minimum haircut recommendations (set out in Annex 2 of this document with the summary of QIS1 results in Annex 3). The exercise also included a set of qualitative questions asking participating firms to provide a general description of the factors they take into account and the approach they follow when setting haircuts.

The policy recommendations of the FSB on securities lending and repos 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 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 the FSB after they are finalised.

The FSB will undertake further work on some recommendations contained in this document. A new FSB data experts group on securities financing markets has been established to take forward recommendations on data collection and aggregation at the global level (recommendations 2 and 3). This group will develop proposed standards and processes for data collection and aggregation at the global level to ensure consistent data collection by national/regional authorities by the end of 2014.

Meanwhile, the FSB is conducting the second stage of the QIS (QIS2) to assess the impact of its proposed recommendations on minimum haircut standards described in Annex 2, and in particular the proposed numerical haircut floors. It is also inviting additional views from the public on the impacts and details of the proposed recommendations through the list of questions set out in Annex 2. The current proposed recommendations are based on the public responses on the November 2012 Consultative Document and on the results of the first stage of the QIS. The FSB welcomes comments on these proposals set out in Annex 2. Comments and responses to questions should be submitted by **28 November 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. Meanwhile, the FSB will publish the QIS instructions with templates to assess the impact of these new specific proposals by mid-October, and invite interested market participants – including non-bank financial institutions - to participate in the exercise. Based on the QIS2 results and the comments received, the FSB will complete its work on minimum haircut standards in spring 2014.

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 financing 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.[8]
- 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 securities financing to increase procyclicality of system leverage

- Variations in asset values will drive procyclicality in any banking system. But a system based on securities financing may be more procyclical because of the direct

[8] 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.

relationship of funding levels to fluctuating asset values and (via the levels of haircuts) volatility.[9]

- The policy goal is to restrict, or put a floor on the cost of, securities 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 assets can create financial stability risks especially 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. This would be especially relevant for any jurisdictions where clients have insufficient visibility or authority over how agents are using their assets.

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

- Large exposures amongst financial institutions create a risk of contagion.

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[9] A system based on unsecured financing may also be procyclical or subject to "cliff effects" when confidence in counterparty credit is eroded.

- Securities 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 or is quickly followed by 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 practices.

2. Policy recommendations related to improvement in transparency

2.1 Why better data are important for financial stability monitoring and policymaking

One important lesson from the 2007-2009 financial crisis is that authorities with responsibility for monitoring and mitigating risks to financial stability need more timely and comprehensive visibility into risky trends and developments in financial markets. This includes activity and behaviour in the securities financing markets that were a key locus of systemic risk and a key channel for the transmission of systemic shocks during the crisis. However, gaps and lags in the information available to authorities impeded their ability to identify the build-up of vulnerabilities in the lead-up to the crisis and to recognise emerging risks in these markets soon after they emerged, and to get a comprehensive picture of trends and developments across the full range of market participants. Unfortunately, without a comprehensive and timely picture of how securities financing markets were evolving and the risks associated with patterns of behaviour in these markets, authorities found themselves repeatedly dealing with relatively late-stage market developments that sparked systemic risk transmission during this period. The vulnerability of some repo market segments to runs and fire sales of underlying collateral, the flaws in the assumption that securities financing is always durable even in a stressed market, and the degree to which systemically important players were conducting material maturity, liquidity and credit risk transformation in the course of their securities financing and collateral management activities were all more opaque to authorities than they could ideally have been at an early stage, given the gaps in the data available to them at that time.

Securities lending and repo markets are key places in which financial institutions can build direct exposures to each other. This can create at least three potential risks (see also Section 1):

- The failure of a large institution could destabilise one or more of its counterparties and possibly the broader markets in which it is active (Section 1.2 (iv));
- A systemically important financial institution that is otherwise solvent but highly reliant on short-term wholesale funding could suffer a liquidity shortage during a broad-based run (due for example to concerns about a specific asset class or the stability of a market infrastructure) that threatens its viability and poses risk to its counterparties and broader markets (Section 1.2 (iv)); and
- Entities outside the banking system could finance themselves using securities lending and repos in ways that create significant but not necessarily readily apparent system-wide leverage and maturity transformation. For example, the use of securities lending and repos outside the banking system creates liabilities that are thought to be safe, short-term and liquid - in effect cash equivalents. These may be vulnerable to runs in periods of stress as investors realise that their resemblance to cash or insured deposits in normal times has disappeared in the face of uncertainty about their underlying value. The resulting forced sales of assets whose values are already under pressure can accelerate an adverse feedback loop, in which all forms with similar assets suffer mark-to-market losses, which in turn can lead to more fire sales (Sections 1.1 (i), 1.2 (i) and (ii)) .

In order to be able to better detect such risks, authorities need to augment their data collection so as to capture more granular and timely information on securities lending and repo exposures between financial institutions, including on the composition and evolution of the underlying collateral (see Annex 4 for current approaches in collecting data). This would enable authorities to enhance detection of risk concentrations, 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 Initiative, which currently collects data on securities financing transactions and is developing a framework for pooling and sharing 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.[10]

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 Initiative, taking into account the enhancements suggested in this document.

2.2 What data elements are needed to support financial stability monitoring and policymaking

Increased transparency has the potential to provide useful information to authorities to help to detect and monitor risks as they unfold. It is also important to note that different types of data may be needed for different types of securities financing activity. For example, trade (flow) as

[10] At the regional level, the European Systemic Risk Board (ESRB) in the EU is currently working to enhance monitoring of securities financing transactions (http://www.esrb.europa.eu/pub/pdf/occasional/20130318_occasional_paper.pdf).

well as position (stock) data may be informative and feasible for repo activity, whereas position data may be more meaningful and readily available than trade data for securities lending activity, given how those transactions are conducted and managed. However, if the ultimate objective of enhanced data collection is the monitoring of financial stability risks, it is desirable to get a comprehensive view of the securities financing markets. The economic equivalence of, and similarities between, repo and securities lending transactions would easily enable market participants to circumvent transparency requirements targeted at only part of the market by re-characterising the transactions. At the very least data templates across securities financing transactions should be consistent. In collecting more data, authorities should also endeavour to provide aggregate data to the public wherever possible and informative.

The FSB 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. Tables in Annexes 5 and 6 show the data elements that FSB members feel would be useful, and how they map to various financial stability concerns. The FSB, through WS5, has considered existing official market surveys and other forms of data reporting on some of these data elements in early 2013: that work suggested the existence of significant data gaps in these markets (Annex 7). Authorities should thus collect more granular data at more frequent intervals for financial stability monitoring purposes.

Recommendation 2: Trade-level (flow) data and regular snapshots of outstanding balances (position/stock data) for repo markets should be collected. Regular snapshots of outstanding balances should also be collected for securities lending markets and further work should be carried out on the practicality and meaningfulness of collecting trade-level data. Such data should be collected frequently and with a high level of granularity, and should also capitalise on opportunities to leverage existing data collection infrastructure that resides in clearing agents, central securities depositories (CSDs) and/or central counterparties (CCPs). National/regional authorities should decide the most appropriate way to collect such data, depending on their market structure, and building on existing data collection processes and market infrastructure where appropriate. Trade repositories are likely to be an effective way to collect comprehensive repo and securities lending market data. Regulatory reporting may also be a viable alternative approach.

2.3 A regime for data collection and aggregation at the global level

The FSB envisions that national/regional authorities should decide the best way to collect the needed data, based on a consideration of their market structure and scale, and building upon existing data collection processes and market infrastructure where appropriate. However, national/regional data collection efforts should be designed according to a common set of data standards across borders and financial instruments, to facilitate aggregation at the global level. The FSB would play the role of global data aggregator, and could make information on global trends in financial stability available to the public on a periodic basis. Data suitable for release to the public would need to be subject to appropriate governance standards, aggregated and would represent a subset of what is collected, regardless of the collection approach used

locally. National/regional authorities would aggregate their data and provide only aggregated information (excluding individual counterparty positions) to the FSB.

- Aggregated repo data to be reported may include: range of repo rates, size of market activity, currency breakdown of market activity (both cash and collateral), tenor composition of market activity (total or by collateral asset class), collateral composition by asset class and by quality, haircut ranges (total or by collateral asset class), market concentration metrics, and market segment (e.g. bilateral, centrally-cleared or tri-party).
- Aggregated securities lending data to be reported may include: range of lending rates, volume and value of securities on loan, breakdown of activity by currency, tenor, collateral quality, collateral and/or counterparty type and beneficial owner type as well as the type of security lent and the asset type and maturity in which cash collateral is reinvested.

In order to take forward the work to establish standards for data collection and aggregation at the global level, and finalise a vision for the design of a regime for the data collection of repo and securities lending activity, the FSB has established a technical data experts group. This group will develop proposed standards and processes by the end of 2014. It will also interact closely with market participants. Issues that this group will focus on include:

- What data elements (data standards, definitions and format) might be needed to ensure global aggregation in an efficient manner?
- At what minimum level of granularity should each of these data items be collected for the purpose of producing global aggregates? For example, should collateral be categorised by type or collected at the individual security level? How should transactions against multi-asset collateral baskets be reported and categorised? How should open-ended or extendable repo transactions be reported and categorised? What treatment should apply for collateral optimisation processes whereby collateral can churn over the course of a repo's contracted maturity?
- What conventions need to be agreed in order to minimize the potential for double counting of data (e.g. from both parties to a trade), both within national/regional data collection and when aggregating data at the global level?
- What measures may need to be taken by the FSB as global aggregator, and by local regulators, to ensure that the confidentiality of firm-specific data is protected?
- What framework/data architecture is optimal to support a regional-to-global aggregation operating model?
- How can we ensure appropriate regulator access to data in light of the chosen operational model and data architecture?
- Can the re-use of collateral be captured – what type(s) of information would be needed to do so? [11]

[11] This may include possible development of a measure of collateral "velocity" – meaning the number of times a piece of collateral changes hands.

<u>Recommendation 3</u>: The total national/regional data for both repos and securities lending on a monthly basis should be aggregated by the FSB which will provide global trends of securities financing markets (e.g. market size, collateral composition, haircuts, tenors). The FSB should set standards and processes for data collection and aggregation at the global level to ensure consistent data collection by national/regional authorities and to minimise double-counting at the global level.

2.4 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, the FSB 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 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.

The FSB believes that the following disclosures should be considered for recommendation to the Enhanced Disclosure Task Force (EDTF).[12] Enhancing disclosure standards to include these would improve investors' and authorities' visibility into financial 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. margin posted on OTC derivatives, repo financing, securities lending or collateral against securities borrowing, margin posted to 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. For example, the EDTF may consider improving its reference template on asset encumbrance (Figure 5 of its October 2012 report) to include more granular information on sources and uses of securities collateral, taking into account unintended consequences. The tables in Annex 8 are an attempt by WS5 to incorporate such information for consideration by the EDTF.

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)

[12] EDTF was established by the FSB in May 2012 following an FSB roundtable in December 2011 to improve the risk disclosures of banks and other financial institutions. Membership of the EDTF has wide geographical representation and includes senior executives from leading asset management firms, investors and analysts, global banks, credit rating agencies and external auditors. It published a report on enhancing banks' risk disclosures in October 2012 (https://www.financialstabilityboard.org/publications/r_121029.pdf).

- 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 Enhanced Disclosure Task Force (EDTF) should work to improve public disclosure for financial institutions' securities lending, repo and wider collateral management activities, taking into consideration the items noted above.

2.5 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. The FSB 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 type,[13] by currency, by maturity tenor, [14] by geography (counterparty), cash versus non cash collateral, maturity of non-cash collateral and settlement/clearing (tri-party, CCP, bilateral).

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[13] 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.

[14] Including open transactions.

- Reverse repo data breakdowns: by collateral type,[15] 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 against the FSB's proposal, and consider whether any gaps need to be addressed.

3. Policy recommendations related to regulation

3.1 Cash collateral reinvestment

3.1.1 Key principles

The minimum standards for cash collateral reinvestment by securities lenders or their agents should focus on limiting risks arising from cash collateral reinvestment where securities are lent at call or at short maturities, giving rise to liquidity risk.

3.1.2 Scope of application

Given the global nature of securities lending activity, the 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. Financial intermediaries are outside the scope of the minimum standards if they are subject to regulation of capital and liquidity/maturity transformation.[16]

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.

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[15] See footnote 13.

[16] This may include banks and securities broker-dealers subject to regulatory capital and liquidity requirements.

3.1.3 Requirements

The 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 by the party that borrowed securities, consider whether the firm holds assets that are sufficiently liquid to meet reasonably foreseeable recalls of cash collateral, and take measures to manage the associated liquidity risk.

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

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

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

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

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

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

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

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

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

b. Specific limits for the weighted average maturity (WAM) and/or weighted average life (WAL) of the portfolio in which the cash collateral is reinvested. The methodology for calculating both WAM and WAL should be available to regulators and disclosed to securities lending clients in the case where agent lenders are employed by a securities lender.[18]

2.3 The following are additional requirements that could be considered:

a. A maximum remaining term to maturity for any single investment in which the cash collateral is reinvested, 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.

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

[18] In a WAM calculation, the interest rate reset date for variable and floating rate securities can usually be used instead of the stated final maturity date. This provides a view on the interest rate risk but may conceal risks that a fund faces in holding securities to maturity. WAL is a 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.

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

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

Recommendation 6: Regulatory authorities for non-bank entities that engage in securities lending (including securities lenders and their agents) should implement regulatory regimes meeting the minimum standards for cash collateral reinvestment in their jurisdictions to limit liquidity risks arising from such activities.

3.2 Requirement on re-hypothecation

"Re-hypothecation" and "re-use" of securities are terms that are often used interchangeably. The FSB 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.[19]

Re-use of securities can be used to facilitate leverage. The FSB notes that if re-used assets are used as collateral for financing transactions, they could potentially be subject in the future to the proposals on minimum haircuts in Annex 2 intended to limit the build-up of excessive leverage.

The FSB 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.

[19] Each jurisdiction should clarify the term "client assets".

- 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. The FSB thinks client asset regimes are technically and legally complex and further work in this area will need to be taken forward by expert groups.[20]

Recommendation 7: 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 8: 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.

3.3 Minimum regulatory standards for collateral valuation and management

The FSB 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 for a period without breaching laws or regulations; (ii) value; and (iii) risk manage appropriately.

[20] For example, IOSCO has published a consultation report on the protection of client assets in February 2013 which provides guidance to regulators on how to enhance their supervision of intermediaries holding client assets by clarifying the roles of the intermediary and the regulator in protecting those assets (http://www.iosco.org/library/pubdocs/pdf/IOSCOPD401.pdf). As a complement to IOSCO work, the FSB is also currently developing guidance on the elements that need to be in place to shield client assets from the failure of the firm and, to the extent possible, of any third party custodian or sub-custodian (http://www.financialstabilityboard.org/publications/r_130812a.pdf).

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 and the capabilities to liquidate it in an orderly way.
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 9: Authorities should adopt minimum regulatory standards for collateral valuation and management for all securities lending and repo market participants.

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

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.

The FSB 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) for financial stability purposes. 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, the FSB 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 10: Authorities should evaluate, with a view to mitigating systemic risks, the costs and benefits of proposals to introduce CCPs in their inter-dealer repo markets where CCPs do not exist. Where CCPs exist, authorities should consider the pros and cons of broadening participation, in particular of important funding providers in the repo market.

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 stay; [21]

(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 tool; [22] 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.[23]

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[21] 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.

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

[23] 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.

The FSB 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.

<u>Recommendation 11:</u> 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 1: Policy recommendations on securities lending and repos[24]

<u>Recommendation 1:</u> 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 Initiative, taking into account the enhancements suggested in this document.

<u>Recommendation 2</u>: Trade-level (flow) data and regular snapshots of outstanding balances (position/stock data) for repo markets should be collected. Regular snapshots of outstanding balances should also be collected for securities lending markets and further work should be carried out on the practicality and meaningfulness of collecting trade-level data. Such data should be collected frequently and with a high level of granularity, and should also capitalise on opportunities to leverage existing data collection infrastructure that resides in clearing agents, central securities depositories (CSDs) and/or central counterparties (CCPs). National/regional authorities should decide the most appropriate way to collect such data, depending on their market structure, and building on existing data collection processes and market infrastructure where appropriate. Trade repositories are likely to be an effective way to collect comprehensive repo and securities lending market data. Regulatory reporting may also be a viable alternative approach.

<u>Recommendation 3</u>: The total national/regional data for both repos and securities lending on a monthly basis should be aggregated by the FSB which will provide global trends of securities financing markets (e.g. market size, collateral composition, haircuts, tenors). The FSB should set standards and processes for data collection and aggregation at the global level to ensure consistent data collection by national/regional authorities and to minimise double-counting at the global level.

<u>Recommendation 4:</u> The Enhanced Disclosure Task Force (EDTF) should work to improve public disclosure for financial institutions' securities lending, repo and wider collateral management activities, taking into consideration the items noted above.

<u>Recommendation 5:</u> Authorities should review reporting requirements for fund managers to end-investors against the FSB's proposal, and consider whether any gaps need to be addressed.

<u>Recommendation 6:</u> Regulatory authorities for non-bank entities that engage in securities lending (including securities lenders and their agents) should implement regulatory regimes meeting the minimum standards for cash collateral reinvestment in their jurisdictions to limit liquidity risks arising from such activities.

<u>Recommendation 7:</u> Authorities should ensure that regulations governing re-hypothecation of client assets address the following principles:

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[24] These are finalised recommendations. The FSB is conducting a second-stage quantitative impact study and a further public consultation on its proposed recommendations on minimum haircut standards, including numerical haircut floors as described in Annex 2.

- **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.**

<u>Recommendation 8:</u> 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.

<u>Recommendation 9:</u> Authorities should adopt minimum regulatory standards for collateral valuation and management for all securities lending and repo market participants.

<u>Recommendation 10:</u> Authorities should evaluate, with a view to mitigating systemic risks, the costs and benefits of proposals to introduce CCPs in their inter-dealer repo markets where CCPs do not exist. Where CCPs exist, authorities should consider the pros and cons of broadening participation, in particular of important funding providers in the repo market.

<u>Recommendation 11:</u> 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: Proposed regulatory framework for haircuts on non-centrally cleared securities financing transactions (for public consultation)

This section sets out proposed recommendations on minimum haircuts for non-centrally cleared securities financing transactions based on the public responses received on the November 2012 Consultative Document (especially recommendations 6 and 7) and on the results of the first calibration stage of the QIS (QIS1). The FSB welcomes comments on these proposals. Comments and responses to questions should be submitted by ***28 November 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. Meanwhile, the FSB will publish the second QIS (QIS2) instructions with templates to assess the impact of these new specific proposals by mid-October, and invite interested market participants – including non-bank financial institutions - to participate in the exercise. Based on the QIS2 results and the comments received, the FSB will complete its work on minimum haircut standards in spring 2014.*

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

Q1. Do the proposed policy recommendations in Annex 2 adequately limit the build-up of excessive leverage and reduce procyclicality? Are there alternative approaches to risk mitigation that the FSB should consider to address such risks in the securities financing markets? If so, please describe such approaches and explain how they address the risks. Are they likely to be adequate under situations of extreme financial stress?

Q2. What issues do you see affecting the effective implementation of the policy recommendations?

Q3. Please address any costs and benefits, as well as potential material unintended consequences arising from implementation of the policy recommendations? Please provide quantitative answers, to the extent possible that would assist the FSB in carrying out a quantitative impact assessment. [Note: respondents may also consider participating in QIS2]

Q4. What is the appropriate phase-in period to implement the policy recommendations? Please explain for (i) minimum standards for methodologies and (ii) the proposed framework for numerical haircut floors separately.

1. Key principles

This proposed regulatory framework for haircuts on non-centrally cleared securities financing transactions is intended to limit the build-up of excessive leverage outside the banking system. It may also reduce procyclicality of that leverage.

The proposed framework comprises two complementary elements:

(i) Minimum qualitative standards for methodologies used by *all* market participants to calculate haircuts (including additional guidance for methodologies used by market participants to calculate margins on a portfolio basis); and

(ii) A framework of numerical haircut floors that will apply to non-centrally cleared securities financing transactions in which entities not subject to regulation of capital and liquidity/maturity transformation receive financing from regulated financial intermediaries against collateral other than government securities.

Market participants should establish appropriate internal processes and procedures to ensure haircuts are set in accordance with the proposed framework.

2. Minimum standards for methodologies used by market participants to calculate haircuts

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

Haircut methodologies should be designed to limit potential procyclical fluctuations, i.e. to moderate the extent by which the haircuts 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 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 the use of 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 or illiquidity 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 (market risk), but also take into account other relevant risk considerations, such as the risk of liquidating large concentrated positions (liquidation risk), 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 necessary, haircuts should factor in the foreign exchange risk in cases where there is a currency mismatch between the currency of denomination of the collateral and the counterparty exposure (i.e. cross-currency repos). 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.

The correlation between securities accepted as collateral and securities loaned in securities lending transactions should also be taken into account, where relevant.

Q5. Are the minimum standards described in Section 2 appropriate to capture all important factors 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. Additional guidance for methodologies used by market participants to calculate margins on a portfolio basis

Some market participants calculate margin on a portfolio basis (for example margin lending in prime brokerage) where portfolios may include long and short positions in securities and related derivatives.

Methodologies for portfolio margin calculation should not be procyclical. As far as possible, methodologies should not lead to an automatic decline in margin requirements as the prices of assets in the portfolio increase or as the (actual or implied) volatility of asset prices in the portfolio decreases.

Further, when setting margin requirements for different counterparties/portfolios, market participants should consider the following:

- market risk of the portfolio (as measured by, for example, the change in the value of the portfolio if market indices rise or fall by defined percentages);
- portfolio concentration by geographies, economic sectors and individual issuers;
- illiquidity of the portfolio (for example, portfolios may be illiquid when positions are concentrated and when they are large relative to either the outstanding amount or the average trading volume); and
- risks arising from non-correlated price and spread relationships between lent and collateral portfolio assets.

Methodologies should include robust stress testing of margin requirements against a range of historical and hypothetical stress scenarios. Those stress scenarios should be designed or selected with due consideration to the particular characteristics of the portfolios being stress-tested. Regular back testing of margins should also be carried out.

Market participants should ensure that appropriate internal processes and procedures are in place when they calculate margin on a portfolio basis. Such processes and procedures should be well-documented, source reliable prices and parameters, and include robust controls to identify any shortfalls in the margin methodologies.

One possible approach for further consideration is that regulators might test the adequacy of margin methodologies used by market participants through regular hypothetical portfolio exercises in which relevant market participants submit their aggregate margin requirements on a number of archetypal portfolios. The objectives of such an exercise would be to identify any market-wide changes in levels of margin requirements over time as well as any outlier firms with low margin requirements. The FSB, through its WS5 and involving market participants, will develop further guidance on portfolio margining methodologies as well as examining further the possibility of regular hypothetical portfolio exercises by spring 2014.

Proposed recommendation Annex 2-1 for public consultation: Regulatory authorities should introduce minimum standards for the methodologies that firms use to calculate collateral margins/haircuts, whether on an individual transaction or portfolio basis. Those standards 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.

Q6. Would the additional considerations described in Section 3 appropriately capture all important factors that should be taken into account in setting risk-based haircuts on a portfolio basis? Are there any other important considerations that should be included? How are the above considerations aligned with current market practices?

4. Numerical floors on haircuts

The FSB proposes a framework of numerical haircut floors on securities financing transactions in which entities not subject to regulation of capital and liquidity/maturity transformation receive financing from regulated financial intermediaries against collateral other than government securities. Through the introduction of numerical haircut floors on certain transactions, the FSB aims to limit leverage and reduce procyclicality outside the banking system. The proposal is based in part on the results of a calibration exercise, undertaken as the first stage of a QIS (QIS1), in which a group of large financial intermediaries (17 firms in 12 FSB member jurisdictions) provided detailed historical data on haircut levels in 2006, 2008 and 2012, categorised by type of collateral and counterparty. Annex 3 summarises the aggregate results.

The FSB invites public views and contributions to the second stage of its QIS exercise (QIS2) in the fourth quarter of 2013 that will assess the scope, effectiveness and quantitative impact of the proposed framework more comprehensively, including the exemption of government securities. The detailed QIS2 instructions will be published by mid-October.

4.1 Scope of application

The proposed framework of numerical haircut floors would apply initially to *non-centrally-cleared securities financing transaction in which entities not subject to regulation of capital and liquidity/maturity transformation*[25] *receive financing from financial entities subject to such regulation against collateral other than government securities*.[26]

Securities financing received by financial entities subject to regulation of capital and liquidity/maturity transformation (hereafter "regulated intermediaries") is excluded from the scope of application of the proposed numerical haircut floors because they are already subject to direct capital and liquidity regulation, and thus applying numerical haircut floors to those transactions may be duplicative. Transactions performed in any operation with central banks are also outside the proposed scope of application.

Transactions backed by government securities are also excluded from the current proposed framework because: price movements in these securities tend not to be procyclical;[27] haircuts on these transactions have been comparatively stable over time (based on the results of the calibration exercise); and imposing numerical haircut floors on these transactions could have a large negative impact on the liquidity and functioning of core funding markets.

Q7. In your view, is there a practical need for further clarification with regard to the definition of proposed scope of application for numerical haircut floors?

Q8. Would the proposed scope of application for numerical haircut floors be effective in limiting the build-up of excessive leverage outside the banking system and reducing procyclicality of that leverage, while preserving liquid and well-functioning markets? Should the scope of application be expanded (for example, to include securities financing transactions backed by government securities), and if so why?

Q9. In your view, what would be the impact of introducing the numerical haircut floors only on securities financing transaction where regulated intermediaries extend credit to other entities? Does this create regulatory arbitrage opportunities? If so, please explain the possible regulatory arbitrage that may be created and their impact on market practices and activity.

4.2 Proposed levels for numerical haircut floors

The proposed numerical haircut floors (in table 1) have been calibrated at levels intended to limit the build-up of excessive leverage while maintaining incentives for market participants

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[25] This may include banks and securities broker-dealers subject to regulatory capital and liquidity requirements.

[26] Government securities include sovereign bonds, treasury bills, central bank securities and securities fully guaranteed by the central government. If the FSB decides to implement numerical haircut floors through regulatory capital regimes for regulated intermediaries in its final recommendations forthcoming in spring 2014, the definition of government securities will be aligned with Basel III definition for sovereign exposures with zero per cent risk weight.

[27] Changes in bond prices can be decomposed into movements in risk-free rates and in credit and liquidity spreads. Price movements in government securities may become procyclical if credit and liquidity spreads on those securities become significant.

to conduct their own analysis of the appropriate level of haircuts, following the minimum standards set out above.

Table 1: Proposed numerical haircut floors for securities-against-cash transactions

Residual maturity of collateral	Haircut level	
	Corporate and other issuers	Securitised products
≤ 1 year debt securities, and FRNs	0.5%	1%
> 1 year, ≤ 5 years debt securities	1%	2%
> 5 years debt securities	2%	4%
Main index equities	4%	
Other assets within the scope of the framework	7.5%	

In developing the proposed numerical haircut floors, the FSB discussed the relative merits of setting a single numerical floor for haircuts and a more granular approach. Balancing simplicity with the need to avoid creating incentives to increase the use of risky collateral, the FSB agreed that the proposed numerical haircut 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, in order to avoid mechanistic reliance on external ratings. Basing numerical haircut floors on a variant of the Basel III standard supervisory haircuts for securities financing transactions has the important benefit of consistency with capital rules and with the standardised schedules adopted by the BCBS-IOSCO margining requirements for non-centrally cleared derivatives.

The proposed numerical haircut floors are intended to apply both where margins/haircuts are applied at the transaction level and at the portfolio level. In the case of portfolio margining, the margin applied should therefore be no lower than the weighted-average of the haircut floors that would be applied individually to the financing positions in the portfolio that are within the scope of this framework. Based on discussions with market participants and the proposed level calibration of numerical haircut floors, the FSB believes that the consequent effective floors on portfolio margin would not be unduly restrictive, even for borrowers running diversified, market-neutral portfolios. However, it invites market views on this point.

Importantly, the proposed numerical haircut floors are not intended to dictate market haircuts, and market participants should conduct their own assessment as to the appropriate level of haircuts to apply in every single circumstance, considering all relevant risk factors. Market participants are encouraged to determine their own, more granular risk-based haircut schedules, in accordance with the minimum methodology standards as set out above, and to transact with higher haircuts than any regulatory numerical haircut floors where prudent. Authorities should monitor whether the numerical haircut floors are becoming de-facto market standards for haircuts.

Q10. In your view, would the proposed levels of numerical haircut floors as set out in table 1 be effective in reducing procyclicality and in limiting the build-up of excessive leverage, while preserving liquid and well-functioning markets? If not, please explain the levels of numerical haircut floors that you think are more appropriate and the underlying reasons.

Q11. Are there additional factors that should be considered in setting numerical haircut floors as set out in table 1? For example, should "investment grade" or other credit quality features be factored in?

Q12. Are there any practical difficulties in applying the numerical haircut floors at the portfolio level as described above? If so, please explain and suggest alternative approaches for applying the numerical haircut floors to portfolio-based haircut practices?

4.3 Cash-collateralised securities lending

The proposed framework of numerical haircut floors is intended to apply to transactions where the primary motive is to provide financing to entities not subject to regulation of capital and liquidity/maturity transformation, rather than to borrow/lend specific securities.

The FSB therefore proposes to exempt cash-collateralised securities lending transactions from the proposed framework of numerical haircut floors if the lender of the securities reinvests the cash collateral into a separate reinvestment fund and/or account subject to regulations (or regulatory guidance) meeting the minimum standards set out in Section 3.1 of this Document. This approach would: (a) recognise the key principle that haircut floors should only apply to financing transactions; (b) allow regulatory and supervisory authorities to enforce this principle in a relatively objective manner (i.e. without having to make subjective intent determinations); and (c) limit opportunities for regulatory arbitrage that could otherwise exist.

"Special repos (or specials)"[28] should not be exempted from the scope of proposed numerical haircut floors. Although special repos are also used for borrowing/lending specific securities, the cash borrower does typically use the cash for financing purposes. Haircuts on special repos (if any), unlike cash collateralised securities lending, are typically paid by the cash borrower and thus economically equivalent to securities borrowing that may be captured by numerical haircut floors.

Q13. What are your views on the merits and impacts of exempting cash-collateralised securities lending transactions from the proposed framework of numerical haircut floors if the lender of the securities reinvests the cash collateral into a separate reinvestment fund and/or account subject to regulations (or regulatory guidance) meeting the minimum standards? Do you see any practical difficulties in implementing this exemption? If so, what alternative approach to implementing the proposed exemption would you suggest?

Q14. Do you think cash-collateralised securities borrowing transactions where the cash is used by the securities lender to meet margin requirements at a CCP should also be exempted from the proposed framework of numerical haircut floors?

[28] Special repos are repos that are conducted to finance assets that are in high market demand.

4.4 "Collateral upgrade" transactions

"Collateral upgrade" transactions can be defined as borrowing securities in Table 1 against other securities in Table 1 that attract higher haircuts. Such transactions are a potential concern as they may be used to circumvent numerical haircut floors. This could be achieved by structuring a financing repo as a combination of a "collateral upgrade" and a repo of the lower-haircut 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 haircut floors would also need to apply to "collateral upgrade" transactions. These floors would be equal to the difference between the floors that would be applied to repos of the collateral types on the two legs of the transaction done separately.[29] For example, the haircut floor on the collateral swap in the previous example would be 3.5%, i.e. the floor for main index equities of 4% less the floor for under-one-year corporate debt securities of 0.5%. This extension of the framework clearly adds complication but the FSB thinks it is unavoidable if the proposal is to be workable to reduce the risk of regulatory arbitrage.

Similar to the proposed exemptions for cash collateralised securities lending (as explained in the previous section), the FSB proposes that securities lenders could be exempt from the proposed numerical haircut floors on "collateral upgrade" transactions – or securities borrowing/lending transactions against the pledging of other securities as collateral, rather than cash – if they are unable to re-use collateral securities received against securities lending and therefore do not obtain financing against that collateral.

Q15. What are your views on the proposed treatment of collateral upgrade transactions described above? Please explain an alternative approach you think is more effective if any.

Q16. What are your views on exempting collateral upgrade transactions from the proposed framework of numerical haircut floors if securities lenders are unable to re-use collateral securities received against securities lending and therefore do not obtain financing against that collateral?

4.5 Implementation approaches

The proposed framework for numerical haircut floors could be implemented in various ways including (i) regulatory capital regimes for regulated intermediaries; (ii) minimum margin requirements for regulated intermediaries; or (iii) market-wide regulation of securities financing transactions. The first two approaches would only cover transactions in which regulated intermediaries provide financing to "other entities", whereas the third approach would cover transactions among all types of entities.

The FSB considers that the proposed numerical haircut floors should be implemented through regulatory capital or minimum margin regimes for regulated intermediaries. At present, FSB members believe the value of outstanding transactions in which "other entities" provide financing to "other entities" to be small. Also, using existing regulations of regulated

[29] For the purpose of calculating haircut floors for collateral swaps involving government securities, market participants should assume the floor for government securities to be 0%.

intermediaries would make implementation more straightforward. However, that could conceivably change in the future as market practices and activities evolve. Authorities should thus establish a monitoring framework that would capture the trends and risks in transactions between "other entities". Such national/regional monitoring results may be included in the FSB annual global shadow banking monitoring exercise.[30] Based on the monitoring results, the FSB could consider expanding the scope through, for example, utilising market regulation that would have broadest scope as it would be able to capture any financing provided by entities other than regulated intermediaries. Irrespective of the regulatory measures that might be put in place in the short-term, implementation of the FSB's proposals on market transparency (as described in Section 2 of this document) would put the authorities in a better position to monitor whether these steps remain sufficient to address potential risks to financial stability.

This approach to implementation amounts to regulating the terms on which regulated intermediaries provide financing in order to regulate the terms on which "other entities" receive financing. It is "indirect" regulation of "other entities". Some regulators already set minimum margin requirements for regulated intermediaries' securities financing transactions and these regimes may be used directly to implement the proposed framework for numerical haircut floors. Implementation through regulatory capital requirements would work by setting significantly higher capital requirements for transactions with haircuts below the proposed numerical floors. The intention would be to create incentives for regulated intermediaries to set their collateral haircuts higher than the floors rather than to raise bank capital requirements. For banks, the FSB proposes to recommend that the Basel Committee on Banking Supervision (BCBS) reviews the capital treatment of securities financing transactions to achieve this objective. Box 1 sets out possible approaches.

The FSB highlights the potential for market participants to seek to avoid the proposed numerical haircut floors by booking transactions in different jurisdictions, which can be done relatively easily in these markets. It is therefore highly desirable that the proposed framework 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). The FSB will coordinate closely with the BCBS-IOSCO monitoring group on margin requirements for non-centrally cleared derivatives so as to minimise incentives to arbitrage any differences between the two regimes.

A framework of numerical floors on haircuts 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 haircut floors beyond the initial levels could in theory 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).

The FSB will assess the viability of its approach taken with regard to the scope of application for the proposed numerical haircut floors through its QIS2. The FSB will also work closely

[30] For example, please see http://www.financialstabilityboard.org/publications/r_121118c.pdf.

with the standard setting bodies, in particular the BCBS, in completing the recommendations in spring 2014.

<u>Proposed recommendation Annex 2-2 for public consultation:</u> Authorities should introduce a framework of numerical floors on haircuts for non-centrally cleared securities financing transactions in which entities not subject to regulation of capital and liquidity/maturity transformation receive financing against collateral other than government securities (as described in Section 4 of Annex 2). Such floors would work alongside minimum standards for the methodologies that firms use to calculate collateral haircuts. The FSB will conduct a comprehensive quantitative impact assessment and further define the framework by spring 2014. At least initially, this framework should be implemented through regulation of regulated financial intermediaries. The Basel Committee on Banking Supervision (BCBS) should review its capital treatment of securities financing transactions and amend it accordingly. The FSB, in coordination with the BCBS, will monitor the implementation of the framework and will consider reviewing the scope as necessary.

Q17. What do you view as the main potential benefits, the likely impact on market activities, and possible material unintended consequences on the liquidity and functioning of markets of introducing the proposed framework of numerical haircut floors on securities financing transactions as described above?

Q18. Would implementing the proposed numerical haircut floors through regulatory capital or minimum margin regimes for regulated intermediaries be effective in reducing procyclicality and in limiting the build-up of excessive leverage by entities not subject to capital or liquidity regulation?

Q19. Are there specific transactions or instruments for which the application of the proposed framework of numerical haircut floors may cause practical difficulties? If so, please explain such transactions and suggest possible ways to overcome such difficulties.

Q20. What would be an appropriate phase-in period for implementing the proposed regulatory framework for haircuts on non-centrally cleared securities financing transactions? Please explain for (i) minimum qualitative standards for methodologies and for (ii) numerical haircut floors separately.

Box: Implementation of a framework of numerical haircut floors on non-centrally cleared securities financing transactions

This box sets out preliminary proposals for how numerical haircut floors might be implemented through modifications of the current Basel capital requirements for non-centrally cleared securities financing transactions. There are several potential outcomes for banks conducting core transactions with haircuts below the numerical floors. They could:

(i) switch to unsecured lending;

(ii) keep the current haircut level and hold more capital;

(iii) raise the haircut level to avoid the capital charge; or

(iv) not do the transaction at all.[31]

The policy aim is to determine a set of rules such that the third outcome is achieved. Although a detailed analysis of behavioural responses is beyond the scope of this Box, preliminary calculations under certain assumptions show that banks will tend to prefer raising haircuts if the capital cost for not doing so is sufficient.

Current treatment in Basel II.5[32]

For collateralized transactions, the Basel Standardised Approach (RSA) calculates the exposure amount after deducting the value of the collateral posted (subject to standardised haircuts) according to this formula:

$$E^* = E \times (1 + He) - AC \times (1 - Hc - Hfx),$$

where:

E^* = the exposure value after risk mitigation;

E = current value of the exposure;

He = haircut appropriate to the exposure[33];

AC = value of adjusted collateral (see text below);

Hc = haircut appropriate to the collateral;

Hfx = haircut appropriate for currency mismatch between the collateral and exposure.

Then, the minimum capital requirement (Kmin) is given by:

$$Kmin = 0.08 \times RW \times E^*.$$

---

[31] Banks could also enter into a total return swap with the non-bank. This case is left for further study.

[32] This treatment is under the "comprehensive approach" in the Basel III capital framework. There is also a "simple approach" (paragraph 129 of the Basel III framework). Under the simple approach, the risk-weights of the collateral instrument collateralising or partially collateralising the exposure is substituted for the risk-weights of the counterparty. Further assessment of conditions under which a bank applies one approach or the other may be needed.

[33] The haircut on the exposure would be zero in the case of transactions to finance entities other than financial intermediaries against non-sovereign collateral because the exposure will always be in the form of cash.

Optional treatments to induce use of haircut floors

Option 1: This proposal treats transactions with haircut below the numerical floor as unsecured (the gross amount) for capital purposes. The adjusted value of collateral (AC) would then be calculated as AC = 0.

Option 2: The capital cost (compared to option 1) for not complying with the haircut floors can be reduced in order to maintain incentives for banks to lend on a secured basis. One way to accomplish this is by reducing the value of collateral in proportion to the difference between the haircut floor and the haircut applied by the banks. The adjusted value of collateral (AC) would then be calculated as:

$$AC = C \times [\, 1 - \theta * (Hf - H) \,]$$

where:

C = current value of the collateral received;

Hf = haircut floor;

H = effective haircut applied to the transaction;

θ = a parameter that can be adjusted to make the penalty harsher.

The intention is to deduct from the collateral value only the fraction of collateral that falls under the haircut floor before plugging all the factors into the RSA formula for calculating the exposure value after risk mitigation (E*).

Example of how options 1 and 2 would compare with the current Basel treatment

Consider the following numerical example where it is assumed the collateral is in the form of non-main index equities.

Exposure (E): 100

Collateral value (C): 100

Haircut applied (H): 0%

Haircut floor (Hf): 7.5%

$AC = 100 \times [1 - \max(0, 0.075)] = 92.5$

RW = 50%.

Hc = 25%

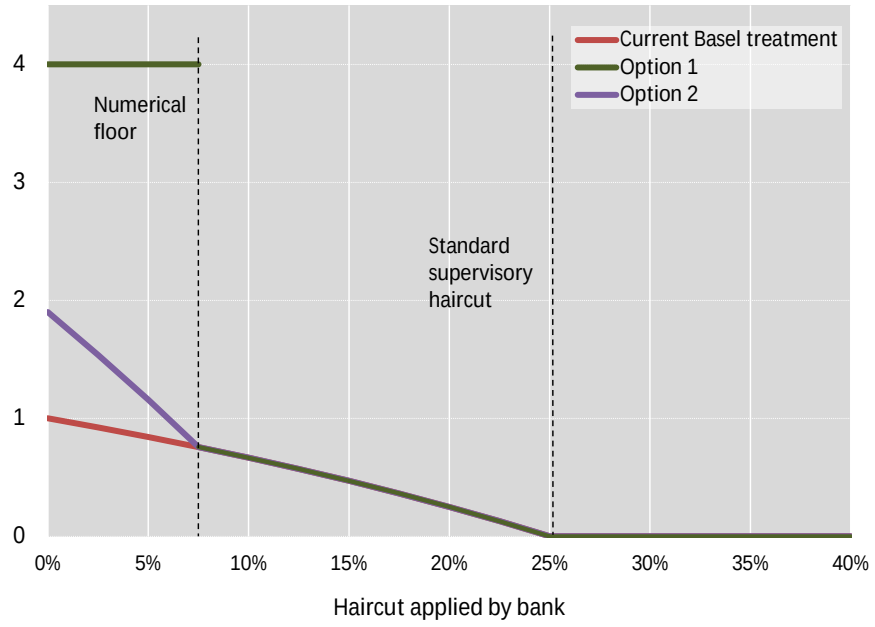
$\theta = 4$

For simplicity, He = Hfx = 0%

	Capital requirement
Current treatment	E* = 100 – 100 x (1 – 25%) = **25** Kmin = 0.08 x RW x E* = 0.08 x 0.5 x 25 = **1**
Option 1	E* = 100 – 0 x (1 – 25%) = **100** Kmin = 0.08 x RW x E* = 0.08 x 0.5 x 100 = **4**
Option 2	E* = 100 – 70 x (1 – 25%) = 47.5 Kmin = 0.08 x RW x E* = 0.08 x 0.5 x 47.5 = **1.9**

Alternatively, the figure below shows the bank's capital requirements as a function of the haircut applied by the bank, H>0 (assuming that the non-bank pledges additional collateral to obtain the required funding: C = E / (1-H)).

Capital requirements under different regulatory treatments



It is clear that treatment 1 (green line) would be substantially the most punitive, whereas under treatment 2 (purple line), depending on the parameter θ, capital requirements are in between the current Basel treatment (red line) and treatment 1. Note that under treatments 1 and 2, capital requirements converge to the Basel treatment as the haircut applied by the bank converges to the haircut floor (assumed to be 7.5% in the figure), and then to zero as the haircut converges to the standard supervisory haircut.

Annex 3: Summary of QIS1 results

The FSB invited views from the public on a framework of numerical haircut floors in November 2012 and launched a quantitative impact assessment (QIS) in April 2013. The QIS was undertaken in a two-stage manner. The first stage consisted of a data request to a small group of large financial intermediaries (banks and securities broker-dealers) globally on historical haircut distributions at three specific previous points in time (pre-crisis, post-crisis and current) in order to help calibrate detailed minimum haircut proposals. This first stage also included a set of qualitative questions asking participating firms to provide a general description of the factors they take into account and the approach they follow when setting haircuts on securities financing transactions. This exercise will be followed in the second stage by a more comprehensive quantitative assessment of the impact on a broader set of firms of the FSB's detailed haircuts proposals, both the proposed numerical haircut floors to be applied to certain securities financing transactions and the recommended minimum standards for methodologies used by firms to set their own haircuts.

The first stage of the QIS (QIS1) took place in April-July 2013, during which the FSB collected and analysed detailed haircuts data as of 2006, 2008 and 2012, as well as qualitative information on haircut practices from 17 large financial intermediaries in 12 FSB member jurisdictions.[34] The total outstanding volume of reverse repos conducted by these 17 intermediaries amounts to USD 1.1 trillion in 2012.

The main results of QIS1 suggested the following:

- **Transactions against sovereign debt collateral were by far the largest category of securities financing transactions across time**, constituting around three quarters of the overall total transactions reported by participating firms. About half of the remaining quarter or so of reported transactions were secured by corporate and other issuers' debt, with the balance split almost equally between transactions backed by securitised products and equities or other collateral types. (Exhibit 1)
- **Banks and broker-dealers are the main counterparties to the transactions reported by the participating financial intermediaries, but nonetheless constitute less than 50% of the overall transactions in 2012.** (Exhibit 2)
- **Less than 10% of the total transactions reported as of the 2012 period were backed by non-sovereign debt collateral and conducted with counterparties that are not banks or broker-dealers** (i.e. transactions as defined in Annex 2). (Exhibit 3)
- **Haircuts generally increased for all collateral types since 2006.** The greatest increase was seen in securitised products, followed by equities and corporate debt. Haircuts on securities financing transactions collateralised by equities have exhibited more procyclicality, with the average haircuts on this asset class rising sharply from 2006 to 2008, but since then declining in 2012, although not back to the levels seen before the crisis. Haircuts on securitised products have remained at higher levels relative to pre-crisis after increasing in 2008.

[34] They are Australia, Brazil, Canada, France, Germany, Italy, Japan, Netherlands, Spain, Switzerland, UK and US.

- **There is considerable dispersion in haircuts applied across firms for a given collateral type and as of a given reporting period.** The size of the reporting intermediary does not seem to be a significant driver of haircuts overall, although more analysis may be needed to confirm this observation given the small size of the sample.
- **Over half of all reported transactions were undertaken with zero haircuts as of the 2012 period; of those, nearly 85% were backed by sovereign debt collateral.** Meanwhile, zero haircuts were also applied to transactions with other collateral types including securitised products and equities (Exhibits 4-6). Some of these zero haircut transactions appear to have been securities borrowing transactions against cash-collateral, on which the haircut would typically be paid to the securities lender. As they are not financing transactions, securities borrowing transactions should have been excluded from the reporting but some reporting firms were unable to do this comprehensively.
- **Reporting intermediaries tend to apply slightly higher haircuts on average to transactions with non-bank/broker-dealers** compared to those with banks and broker-dealers, but the difference reported is overall quite small.
- **Haircuts for transactions backed by collateral assets whose residual maturity is more than 5 years tend to be somewhat higher** than for transactions backed by collateral with shorter residual maturity. This trend seems to get clearer in 2012 relative to earlier reporting periods, especially for lower-quality collateral.
- In general, reporting intermediaries suggested that **"collateral type" is the main driver of haircuts across all three time periods. The assessed creditworthiness of their counterparty was also reported to be of high or very high importance in setting the lending institution's risk tolerance** (either the transaction haircut or other risk parameters, e.g. credit limit).

The second stage of the QIS (QIS2) will be undertaken with a wider pool of firms and will be conducted in the fourth quarter of 2013, based on the proposed haircut recommendations detailed in Annex 2 of this document. The FSB will soon publish the QIS2 instructions with data reporting templates and invite market participants to contribute their data to the exercise. Based on the QIS2 results, the FSB will finalise its recommendations on minimum haircuts in spring 2014.

Exhibit 1

Distribution of collateral type
Percent of 2012 data

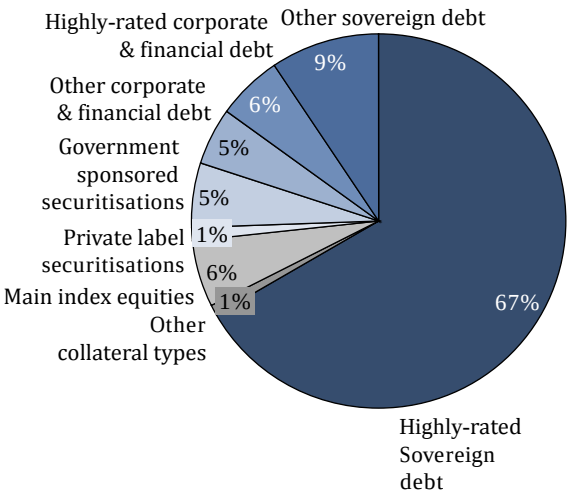
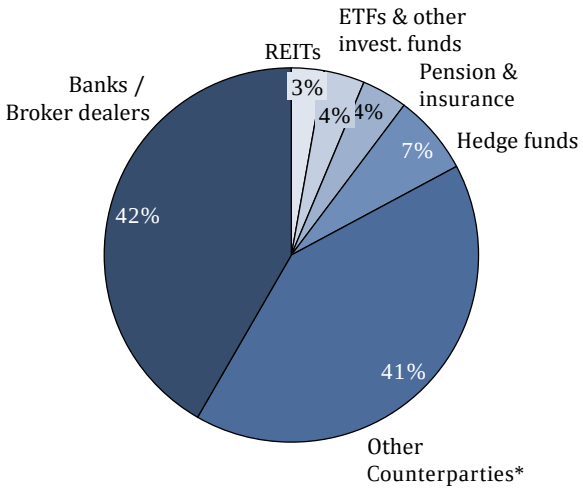


Exhibit 2

Distribution of counterparty types
Percent of 2012 data



** "Other Counterparties" can be counterparties not listed above or counterparties other than banks / broker dealers where the participating firm did not provide a more detailed breakdown.*

Exhibit 3

Transactions subject to proposed floors in 2012

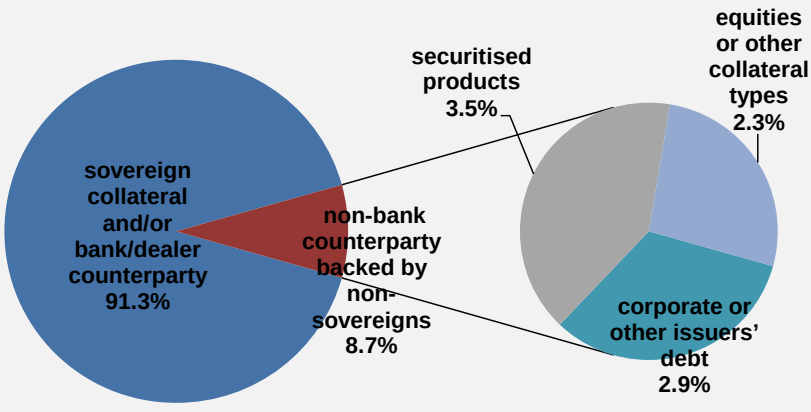
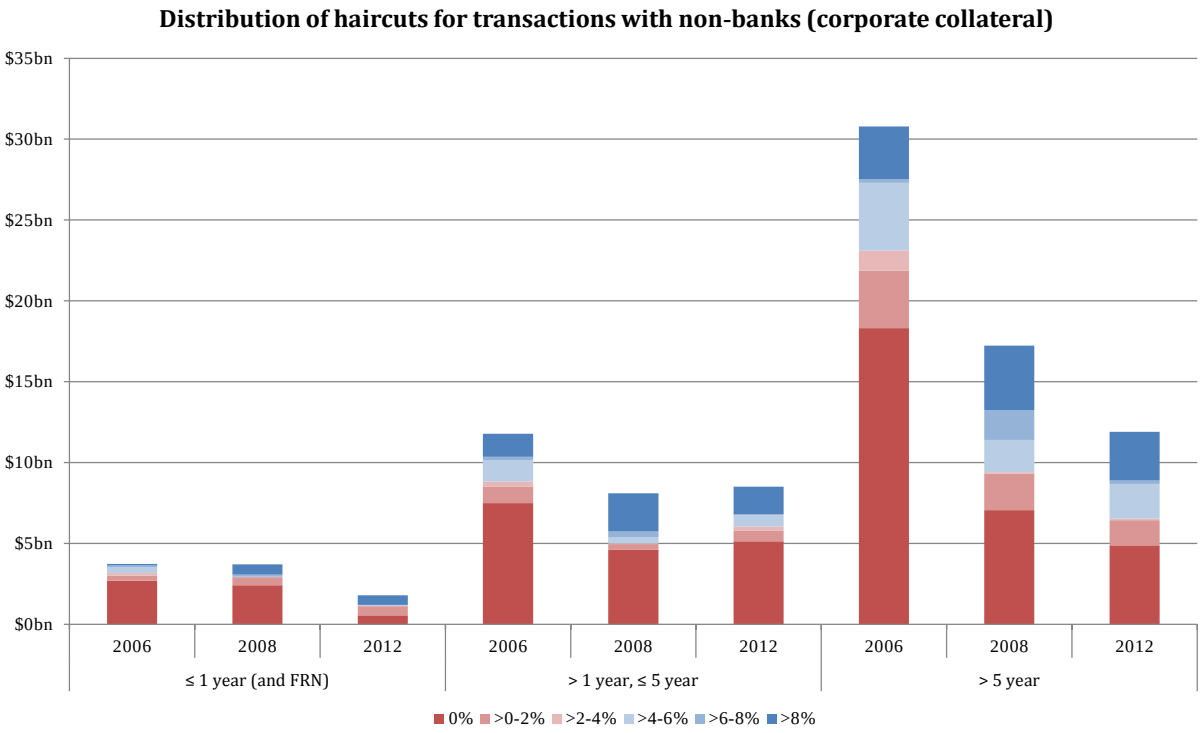
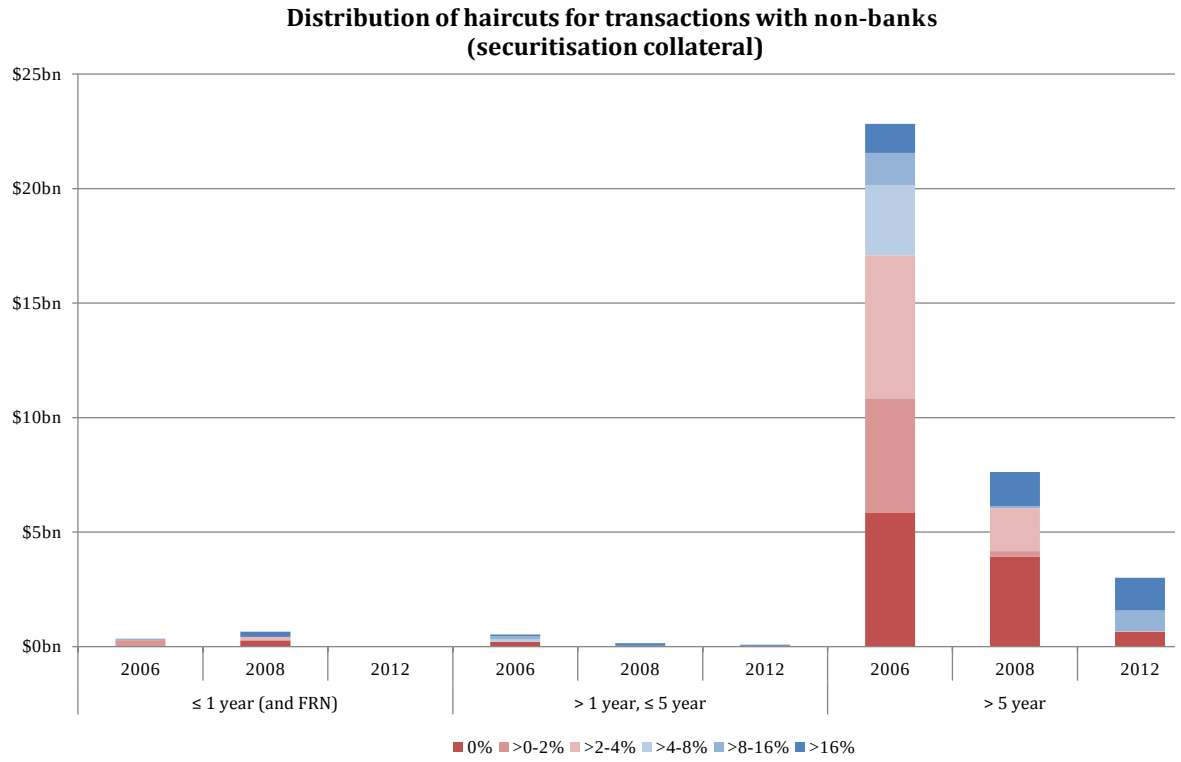


Exhibit 4



Note: Based on a fixed sub-sample of firms across three periods.

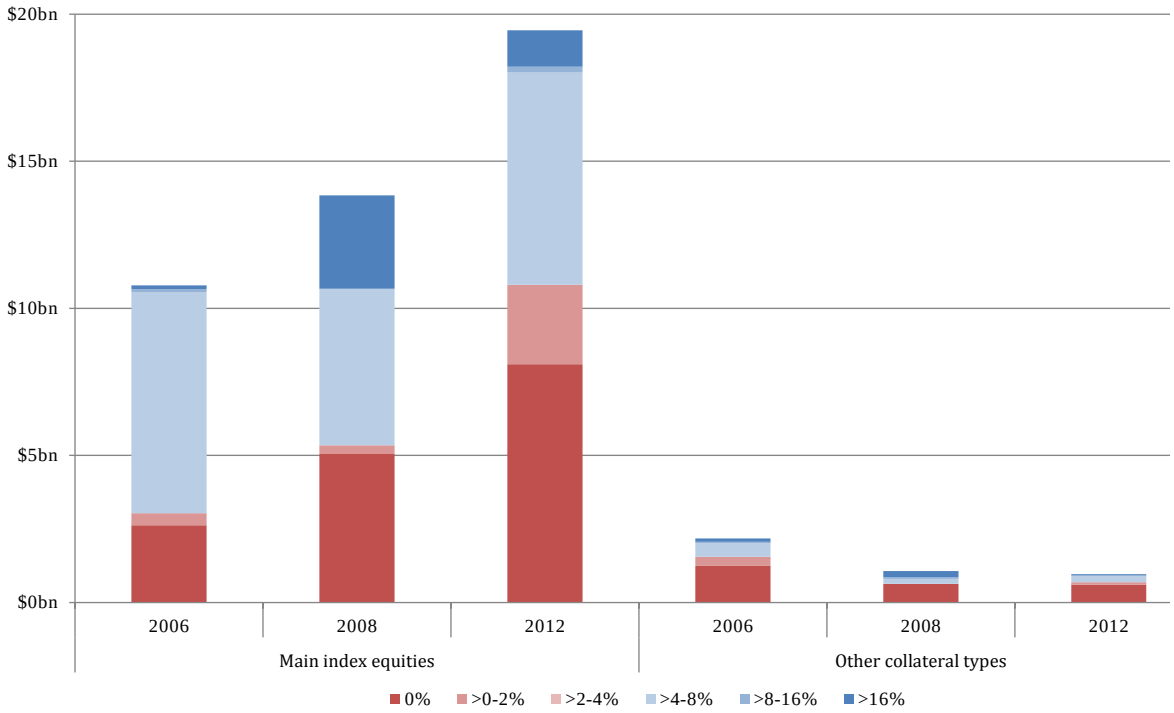
Exhibit 5



Note: Based on a fixed sub-sample of firms across three periods. Government-sponsored securitisation is excluded.

Exhibit 6

Distribution of haircuts for transactions with non-banks (equities and other collateral)



Note: Based on a fixed sub-sample of firms across three periods.

Annex 4: Different approaches to data collection (in relation to Policy Recommendations 1-3)

The data that public sector officials need to support their financial stability monitoring needs can be collected in several ways: through (i) regulatory reports, (ii) compulsory market surveys, or (iii) 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.

***Regulatory reports*:** Reports submitted by individual firms to their regulatory authorities. Data could be submitted either as an amendment to existing reports or as a separate report. This approach may work well in jurisdictions where market participants are all subject to macro-prudential supervision and/or overseen by a single regulatory authority, so that data can be collected easily on a market-wide basis. This approach may be less workable in jurisdictions where participants are not subject to macro-prudential supervision, or are overseen by multiple regulatory authorities. A disadvantage of this approach would be lagged data.

***Compulsory market surveys*:** Compulsory periodic questionnaires conducted by central banks, regulatory authorities or industry groups, covering all significant participants in a market. Such an approach could be useful in collecting data on a market-wide basis, particularly in jurisdictions where participants are overseen by multiple regulatory authorities with different regulatory reporting regimes. One challenge of this approach might be ensuring that all significant participants contribute so that data provides a complete picture of market activity. On the other hand, an advantage of this approach is that the data requested can easily be modified over time, as developments warrant.

***Trade repository (TR)*:** A database of information covering transaction activity across all market participants. Information could be collected either directly from market participants or from the centralised settlement/clearing agent(s) that process transactions. A potential advantage of this approach is that it can be set up to collect data across all market participants, particularly if submission of data to the TR is mandated by regulators, as is the case for OTC derivatives in some jurisdictions. Depending on how it is designed, such an approach could require up-front investment in infrastructure changes needed to operationalise data collection. This approach might be particularly advantageous where a high share of transaction activity is processed by centralised clearing agents or a CCP. Disadvantages of this approach might be the costs associated with establishing or retrofitting a TR, the resulting need to exercise care and thought in designing the TR to meet future needs flexibly and with a minimum of customisation, and the need to establish standards and a clear governance framework to govern the TR's operation.

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

- Aggregate data should be released to the public wherever possible and informative, in a manner that respects the confidentiality of firm-specific data, regardless of the approach taken to collecting the data.
- 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.[35] But any standards that are created to facilitate consistency across markets and borders should inform the design of a TR or other mechanisms for collecting data.
- The scope of data collection could depend on the market considered. For securities lending, a single TR may 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 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	• Could be low cost if added to existing reporting requirements • Relatively easy to change over time unless dependent on regulatory or legal action • Relatively better	• Relatively low cost to implement • Relatively easy to change over time •	• Provides more timely information if collected in an automated manner • Provides more frequent information and facilitates timely monitoring of market developments • Spans all market

[35] 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.

	quality and quantity of data than market survey • Could be performed by authorities responsible for financial stability		participants regardless of regulator
Cons	• 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	• Reporting is typically at a considerable time lag • Difficult to implement for high frequency reporting • Less consistent data can make time series analysis difficult	• 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 TR would build on the interest that is coalescing in Europe and North America for greater transparency into securities financing market activity:

- The Vice-President of the ECB has proposed a trade repository for repo transactions in the euro area.[36]
- In 2012 the European Parliament adopted a resolution, which called for the creation, possibly by the ECB, of a central EU database on euro repo transactions, and invited the European Commission to proceed to the rapid adoption of a coherent approach for central data collection, identifying data gaps and combining efforts by existing initiatives from other bodies and national authorities, in particular the trade repositories put in place by the European Market Infrastructure Resolution (EMIR).[37]
- 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 has indicated its interest in exploring a trade repository for securities financing transactions.[38]
- In February 2013, the Investment Industry Regulatory Organization of Canada (IIROC) proposed a new rule to require each IIROC Dealer Member to report on a post-trade basis all debt market transactions executed by the Dealer Member, including repo transactions.[39] For repo trades, the proposed data elements to be reported would include the repo rate, repo maturity date, repo haircut, and collateral security identifier. The initiative aims to enable consistent and standardized reporting of all OTC debt market transactions, the creation of a database of transactions for all specified OTC debt securities, the development of regular surveillance reports for IIROC to monitor trade activity, and analysis of trends and developments in the debt and money markets.

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36 http://www.ecb.int/press/key/date/2012/html/sp120427.en.html

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

38 http://www.bankofengland.co.uk/publications/Documents/speeches/2012/speech591.pdf

39 http://www.iiroc.ca/Documents/2013/2e5bf850-7ea6-4b36-9217-f744517554a9_en.pdf

Annex 5: Data on repo transactions that would help to inform authorities' financial stability monitoring and policy responses[40]

Financial stability monitoring focus (repo)	Value date	**Maturity date**[41]	**Collateral type**	**Collateral quality**	**Principal amount**	**Counter-party type**[42]	Haircut	**Market segment**[43]	Repo rate	**Currency**[44]	
										cash	**collateral**
1. Degree of rollover risk / vulnerability to run/fire sales on the market or a specific • market segment • asset type • counterparty • collateral quality	X	X	X	X	X	X		X		X	X
2. Interconnectedness of repo market participants		X			X	X					
3. Concentration of total repo exposure	X				X	X					
4. Concentrations of exposure to a specific asset class	X		X	X	X	X					
5. Size of the repo market (total and by segment) – snapshot and trend over time	X	X			X			X			
6. Collateral composition of market (total and by segment) – snapshot and trend over time – and degree of potential for fire sales	X	X	X		X			X			
7. Easing/tightening of funding terms for a specific asset class over time (i.e. global increases in rates, spreads or haircuts)	X	X			X		X		X		
8. Maturity profile of the overall market (original as well as remaining maturity perspective)	X	X									
9. Degree of leverage in the repo market					X		X				
10. Degree of currency mismatch										X	X

[40] Fields that would be aggregated on a global basis are indicated in bold.

[41] For repos with a put, maturity date is defined as first day put can be exercised. For open repos, maturity date is defined as next business day. For evergreen repo structures, it would be defined as first date that repo can be terminated by lender.

[42] There may be benefits in using LEI in identifying counterparty in the long-run.

[43] Market segment would be a flag to indicate bilateral, tri-party or CCP. Tri-party could be automatically indicated for trades coming from tri-party repo agents; CCP could automatically be indicated for trades coming from CCPs; bilateral repos could be considered the residual, or could be explicitly highlighted if a repo flag is present in market participants' systems to denote which purchases and sales are bilateral repo legs.

[44] Currency of both cash and collateral legs would probably be needed.

Annex 6: Data on securities lending transactions that would help to inform authorities' financial stability monitoring and policy responses[45]

Financial stability monitoring focus (securities Lending)	Value date	**Maturity date**	**Collateral type**	**Collateral quality**	**Amount of security lent**	**Counter-party and beneficial owner type**	Haircut	**Type of security lent**	**Cash collateral reinvestment**	
									Asset type	**Maturity**
1. Degree of rollover risk / vulnerability to run/fire sales on the market or a specific • asset type • counterparty • collateral quality	X	X	X	X	X	X		X	X	X
2. Interconnectedness of market participants		X			X	X				
3. Concentration of total exposure	X				X	X				
4. Concentrations of exposure to a specific asset class/quality	X		X	X	X	X		X	X	
5. Size of the securities lending market – snapshot and trend over time	X	X			X					
6. Collateral composition of market– snapshot and trend over time – and degree of potential for fire sales	X	X	X	X	X			X		
7. Maturity profile of the overall market (original as well as remaining maturity perspective)	X	X								X
8. Degree of leverage in the securities lending market					X		X			

[45] Fields that would be aggregated on a global basis are indicated in bold.

Annex 7: Summary of Market Surveys on Securities Lending and Repos

In January 2013, WS5 conducted a stock-taking exercise of the existing official market surveys and other forms of data reporting on securities lending and repos. The following tables summarise the responses received from Australia, Canada, ECB, Germany, Italy, Japan, the Netherlands, Spain, Switzerland, UK and US. The data items are taken from Box 1 of the November 2012 Consultative Document (Proposed information items for enhancing transparency/disclosure in securities lending and repos). The data sources of these jurisdictions are also summarised in Section 4 of this Annex.

1. Market surveys on repos

	Size of book (value of cash legs)	Currency	Tenor composition	Collateral asset class	Haircut ranges	Counterparty breakdown and concentration	Ability to re-hypothecate
Australia	Y	N	N	Limited[46]	N	Limited	N
Canada	Y	Limited[47]	Y	Y	N	N	N
EU[48]	Y	Y	Y	Y	N	Limited[49]	N
Germany	Y	Y	Y	Y	N	Limited	N
Italy	Y	Y	Y	Y	N	Limited	N
Japan	Y	N	Y	Y	Y	Y	N
Netherlands	Y	Y	Y	Y	N	Limited	N
Spain	Y	Y	Y	Y	N	Limited	N
Switzerland	Y	Y	Y	Y	Y	Y	N
UK	Y	Y	Y	Y	Limited[50]	Y	N
US	Y	N	N	Y	Y	N	N

[46] This covers sovereign only.

[47] The following breakdowns are available: {$C, foreign currency}.

[48] This covers European institutions including UK and Swiss banks.

[49] The following breakdowns are available: {direct, via voice broker, via ATS}, {domestic, cross-border, anonymous}, {tri-party, direct without tri-party}.

[50] The FSA Hedge Fund Survey provides information on prime brokerage margin requirements.

2. Market surveys on securities lending

	Volume and value of securities on loan	Volume and value of securities available for lending	Currency breakdown	Counterparty breakdown & concentration	Tenor composition	Type of securities lent	Collateral composition
Australia	N	N	N	N	N	N	N
Canada	N	N	N	N	N	N	N
EU	N	N	N	N	N	N	N
Germany[51]	N	N	N	N	N	N	N
Italy	N	N	N	N	N	N	N
Japan	Y	N	N	N	N	N	N
Netherlands	N	N	N	N	N	N	N
Spain	N	N	N	N	N	N	N
Switzerland	N	N	N	N	N	N	N
UK	Limited[52]	N	N	N	Y	N	N
US	N	N	N	N	N	N	N

	Breakdown of fee and cash reinvestment return	Haircut ranges	Re-use and re-hypothecation data	Number of custodians where received collaterals are kept and the value of collateral assets held by each	Segregated accounts vs. pooled accounts
Australia	N	N	N	N	N
Canada	N	N	N	N	N
EU	N	N	N	N	N
Germany	N	N	N	N	N
Italy	N	N	N	N	N
Japan	N	N	N	N	N
Netherlands	N	N	N	N	N
Spain	N	N	N	N	N
Switzerland	N	N	N	N	N
UK	N	N	N	N	N
US	N	N	N	N	N

[51] Only positions of banks are available. Data on securities lending and repos cannot be separated.

[52] Only gilt stock lending and borrowing data is available.

3. Market surveys on cash collateral reinvestment

	Segregated accounts vs. pooled accounts	Size of book	Maturity structure of loan book	Breakdown of investment/asset types in reinvestment book	Maturity structure of reinvestment book	Cash return on reinvestment portfolio (and split between beneficial owner and agent)
Australia	N	N	N	N	N	N
Canada	N	N	N	N	N	N
EU	N	N	N	N	N	N
Germany	N	N	N	N	N	N
Italy	N	N	N	N	N	N
Japan	N	N	N	N	N	N
Netherlands	N	N	N	N	N	N
Spain	N	N	N	N	N	N
Switzerland	N	N	N	N	N	N
UK	N	N	N	N	N	N
US	N	N	N	N	N	N

4. Data sources by jurisdictions

4.1. Australia

- The Australian Prudential and Regulatory Authority (APRA) requires a regulatory reporting form (Form 320.5) to be submitted quarterly by all locally incorporated banks, Foreign authorised deposit taking institutions (ADIs) and Special Service Providers on a domestic books basis for both repo and stock lending transactions.
- The Reserve Bank of Australia (RBA) conducts an official market survey (Domestic Bond and Repo Market Survey) on a quarterly basis. RBA surveys 16 price makers in Australian dollar denominated Government debt securities. The survey asks for each institution's outstanding repos in government-related securities and the outstanding positions of their bond trading desks (excluding the value of securities held by the institution for liquidity purposes). For trades between survey respondents, double counting is removed by simply dividing the sum by 2. The survey does not include collateral other than Government securities, and does not cover: haircuts; terms of transactions; collateral maturities etc.

4.2. Canada

- Government Securities Distributors are required to submit weekly statistical reports on their domestic fixed income trading activities (including repos), by categories (in terms of types of securities and tenors), to the Investment Industry Regulatory Organization of Canada (IIROC) and the Bank of Canada (BOC) via a Market Trade Reporting System operated by the BOC. Aggregated trading statistics are published by IIROC on a quarterly

basis.[53] In February 2013, IIROC proposed a new rule to require each Dealer Member to report on a post-trade basis all debt market transactions executed by the Dealer Member, including repo transactions.[54] For repo trades, the proposed data elements to be reported would include the repo rate, repo maturity date, repo haircut, and collateral security identifier. The initiative aims to enable consistent and standardized reporting of all OTC debt market transactions, the creation of a database of transactions for all specified OTC debt securities, the development of regular surveillance reports for IIROC to monitor trade activity, and analysis of trends and developments in the debt and money markets.

- The Office of the Superintendent of Financial Institutions (OSFI) has publically available monthly balance sheet data for banks, which include outstanding repurchase and reverse repurchase agreements.[55]

4.3. EU

- The two major surveys covering European repo market activity are the International Capital Market Association (ICMA) semi-annual European repo market survey[56] and the annual European Central Bank (ECB) Euro money market survey.[57] In both ICMA and ECB surveys, the reporting universe includes repurchase agreements (classic repos), sell/buybacks and securities lending/borrowing against cash collateral.
- The ICMA survey is based on outstanding amounts on a certain day (i.e. snapshot data) and conducted twice a year. The ECB survey is instead based on the average turnover in Q2 of each year (i.e. flow data) and focuses on the relative size (over time and across segments) of all segments of the euro money market. The main methodological differences between the two surveys are:
  - Reporting population of the ECB survey focuses solely on credit institutions whereas the ICMA survey in addition encompasses other players, such as automatic trading systems, tri-party agents, some national debt and other public agencies.
  - Reported data: stock (ICMA survey) vs. flow data (ECB survey). Furthermore, the ECB data are indexed to the 2002 turnover level whereas the ICMA survey provides absolute outstanding levels.
  - Coverage of the ECB survey focuses on interbank transactions only vs. all transactions with counterparties excluding central banks are reported in the ICMA survey.
  - Reported maturity of the ECB survey covers the original maturity vs. remaining maturity for the ICMA survey.

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53 http://www.iiroc.ca/industry/marketmonitoringanalysis/Pages/Surveillance-of-Trading-Activity.aspx

54 http://www.iiroc.ca/Documents/2013/2e5bf850-7ea6-4b36-9217-f744517554a9_en.pdf

55 http://www.osfi.gc.ca/osfi/index_e.aspx?ArticleID=554

56 http://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/short-term-markets/Repo-Markets/repo/

57 http://www.ecb.europa.eu/press/pr/date/2012/html/pr121217.en.html

– Reported currencies: The ECB survey covers interbank repo transactions denominated in the euro, whereas the ICMA survey includes most major and some European currencies.

4.4. Germany

- The ICMA European repo market survey covers major German market participants.
- Bundesbank is collecting data on repos and securities lending. However, it is not possible to separate repos from securities lending transactions. Available data include stock value, classes of securities, currency denomination and sector/domicile of the counterparty.
  – Monthly Balance Sheet Statistic[58]: Banks' month-end asset and liability positions in the form of a balance sheet with a supplementary breakdown of the balance sheet items by category, maturity and sector of the respective creditors and debtors.
  – External Position of Banks[59]: Month-end external assets and liabilities of domestic banks, their foreign branches and foreign subsidiaries broken down by country and currency as well as by category, maturity and sector of the respective creditors and debtors. Month-end foreign currency positions vis-à-vis residents (supplementary form FW) of domestic banks.
  – Securities investments statistics[60] (formerly referred to as the securities deposit statistics): the Bundesbank is revising the securities deposit statistics (new). As of the reporting date January 2013, data is being collected on a monthly basis. These statistics concern securities holdings held in safe custody. The statistics cover outstanding amounts and are collected at the end of each quarter on the basis of a security-by-security reporting system.

4.5. Italy

- The ICMA European repo market survey and the annual ECB Euro money market survey (as for other European jurisdictions) cover major Italian market participants.
- At national level, aggregate statistics on the Italian repo market are regularly published by the Bank of Italy in the Statistical Appendix of its Annual Report. Table a15.2 (available only in the Italian edition) shows average daily volume on the MTS repo platform broken by segment (General collateral / Special repo) and by maturity.[61]

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[58] http://www.bundesbank.de/Redaktion/EN/Standardartikel/Service/Reporting_systems/monthly_balance_sheet_statistics.html

[59] http://www.bundesbank.de/Redaktion/EN/Standardartikel/Service/Reporting_systems/external_positions_of_banks_mfis.html

[60] http://www.bundesbank.de/Navigation/EN/Statistics/Money_and_capital_markets/Securities_holdings/securities_holdings.html

[61] http://www.bancaditalia.it/pubblicazioni/relann/rel12/rel12it/app_12_totale.pdf

4.6. Japan

- The Bank of Japan (BOJ) conducted a biennial survey called the Tokyo Money Market Survey in 2008, 2010, and 2012, which covers outstanding trade amount of yen-based bond repo and securities lending trades in Japan. The BOJ plans to increase its frequency and will hold the forth survey in summer 2013. The results of the surveys, together with the findings of the interviews with some of the major market participants, have published as a form of research papers.
- The Japan Securities Dealers Association (JSDA) publishes statistics on domestic securities lending and repo trades. The statistics provide trade volume of repo and securities lending transaction by investor types and types of collateral (cash/non-cash) on monthly basis and repo rates on daily basis. [62] In addition, the statistics provide outstanding trade volume of stock lending transactions by type of stock (listed/non-listed) monthly.

4.7. Netherlands

- The ICMA European repo market survey and the annual ECB Euro money market survey (as for other European countries), covers major Dutch banks.
- On securities lending, statistics on the value of securities on loan from insurance companies and pension funds exist but these do not capture the entire market and there is no further decomposition of the statistics into currency, counterparty etc.

4.8. Spain

- The ICMA European repo market survey and the annual ECB Euro money market survey (as for other European countries), covers major Spanish market participants.
- The Bank of Spain publishes a Bulletin on Public Debt Market which provides daily information on debt transactions and the characteristics of outstanding debt (including buy sell back trades). It also reports on present and future issues in the primary public debt market. [63]
- Iberclear (the Spanish CSD) registers repos and lending securities transactions on sovereign debt, corporate debt and equities, between member entities. [64]

4.9. Switzerland

- The Swiss National Bank (SNB) has not conducted a market survey regarding the money market activity. However, the SNB uses the same infrastructure for its open market operations as the interbank repo market. Consequently the SNB obtains all data regarding transactions (rate, volume, counterparty) as well as collateral delivered on a frequent

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62 http://www.jsda.or.jp/en/statistics/bond-market/index.html

63 http://www.bde.es/bde/en/secciones/informes/boletines/Boletin_del_Mer1/

64 http://www.iberclear.es/?id=ing

basis. The infrastructure that the SNB uses is called Swiss Value Chain, and comprises the trading platform (http://www.eurexrepo.com/repo-en/) as well as the payment system (SIC) and the collateral management (SIX SIS Ltd, which is the Swiss CSD). The interbank repo market covers the majority of the repo transactions in CHF, which are conducted between banks and insurance companies. The data that the SNB obtains is not published.

4.10. UK

- The ICMA European repo market survey covers major UK market participants.
- In the Financial Services Authority (FSA) liquidity returns, firms report their total repo and reverse repo positions broken down by maturity and collateral type on a weekly basis. In addition, they report their top 30 repo funding providers, the amount and weighted average maturity, on a semi-annual basis. The data is not publically available.
- In the Recovery and Resolution Plan (RRP) interbank exposures report, firms report the repo and reverse repo positions with their top 20 bank/broker-dealer counterparties, broken down by maturity and collateral type. The data is not publically available.
- The Bank of England (BOE) publishes statistics on the aggregate repos and reverse repos of UK monetary financial institutions, broken down by counterparty types (UK MFIs, intragroup, UK public sector, other UK residents and non-residents).[65]
- The BOE publishes statistics on the aggregate amount of gilt stock lending and borrowing, broken down by maturity.[66]
- The FSA publishes the semi-annual Hedge Fund Survey, which includes information on the composition of hedge fund borrowings and prime brokerage margin requirements.

4.11. US

- The Federal Reserve Bank of New York (FRBNY)'s primary dealer survey shows data on reverse repo and repo transaction activity for the primary dealers.[67] Note that a substantial share of activity is likely to be double-counted, showing up in both reverse repos and repos.
- The Tri-party Repo Infrastructure Reform Task Force put in place a monthly report from both clearing banks showing the size, collateral breakdown and haircut profile of all tri-party repo market activity in the US.[68]

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[65] Table B1.4 of Bankstats, http://www.bankofengland.co.uk/statistics/Pages/bankstats/current/default.aspx

[66] http://www.bankofengland.co.uk/statistics/Pages/iadb/notesiadb/gilt_repo.aspx

[67] http://www.newyorkfed.org/markets/statrel.html

[68] http://www.newyorkfed.org/banking/tpr_infr_reform_data.html

4.12. Other data providers

- A number of commercial data vendors provide data on securities lending transactions across all global market sectors, with content sourced directly from market participants including prime brokers, custodians, asset managers and hedge funds.
- The Risk Management Association (RMA) collects information on worldwide securities lending transactions from around 15 financial institutions on a quarterly basis.[69]

[69] www.rmahq.org/securities-lending/quarterly-aggregate-composite

Annex 8: Disclosure template on encumbered assets for consideration by EDTF

Note: This table extends the EDTF table on asset encumbrance (Figure 5) to show the source and use of collateral, broken down by asset type and transaction type.

US$bn	**Encumbered assets***						**Total encumbered assets (A)**	**Unencumbered assets***		**Total unencumbered assets (B)**	**A / (A+B) in percentage**
Use of collateral	Repo/reverse repo and securities lending/borrowing	Of which: collateral swaps	Derivatives	Securitisation	Covered bonds	Alternative uses (other than those specified in the previous columns)		Available as collateral	Other**		
Cash and other liquid assets											
Other investment securities											
Loans											
Other financial assets											
Non-financial assets											
Total assets											

US$bn	On-balance sheet assets	Collateral received				Other off-balance sheet assets**	Client assets with right to re-use	Total assets
		Repo/reverse repo and securities lending/borrowing	Of which: collateral swaps	Derivatives	Alternative uses (other than those specified in the previous columns)			
Cash and other liquid assets								
Other investment securities								
Loans								
Other financial assets								
Non-financial assets								
Total assets								

*: Includes both on- and off-balance sheet assets.

**: Please specify main types of assets included in “Other”.