

## **Consultative Document**

# **Strengthening Oversight and Regulation of Shadow Banking**

### **A Policy Framework for Strengthening Oversight and Regulation of Shadow Banking Entities**

**18 November 2012**



# Preface

## Strengthening Oversight and Regulation of Shadow Banking

### Consultative documents

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

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

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

The consultative documents published on 18 November 2012 comprise<sup>1</sup>:

- **An integrated overview of policy recommendations**<sup>2</sup>, setting out the concerns that have motivated this work, the FSB’s approach to addressing these concerns, as well as the recommendations made.
- **A policy framework for oversight and regulation of shadow banking entities**. This document sets out recommendations to assess and address risks posed by “Other Shadow Banking” entities (ref. (iii) above).
- **A policy framework for addressing shadow banking risks in securities lending and Repos**.<sup>3</sup> This document sets out recommendations for addressing financial

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

<sup>2</sup> [http://www.financialstabilityboard.org/publications/r\\_121118.pdf](http://www.financialstabilityboard.org/publications/r_121118.pdf)

<sup>3</sup> [http://www.financialstabilityboard.org/publications/r\\_121118b.pdf](http://www.financialstabilityboard.org/publications/r_121118b.pdf)

stability risks in this area, including enhanced transparency, regulation of securities financing, and improvements to market structure (ref. (v) above).

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

## **Background**

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

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

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

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## Introduction and Summary

This document sets out a policy framework to address shadow banking risks posed by non-bank financial entities other than money market funds (MMFs) (“other shadow banking entities”).<sup>4</sup> A high-level policy framework, based on economic functions, is presented in section 1. A more detailed definition of the economic functions and the proposed policy toolkits are presented in sections 2 and 3 respectively. A discussion of the information-sharing process with regard to the implementation of the proposed policy framework is presented in section 4.

The policy framework has been developed by an FSB workstream (hereafter WS3) tasked with assessing the extent to which non-bank financial entities other than MMFs are involved in shadow banking and to develop policy recommendations as necessary.<sup>5</sup>

In line with its mandate, WS3 first completed a categorisation and data collection exercise for a wide range of non-bank financial institutions. After casting the net wide, WS3 conducted a two-step prioritisation process to narrow the scope to certain types of entities that may need policy responses: first looking at “size” and “national experience” (authorities’ judgement) to derive a list of entity types (“filtered entities”); then assessing their shadow banking risk factors (e.g. maturity/liquidity transformation and leverage). As part of the process, WS3 met with industry representatives to exchange views and obtain additional information. It also commissioned a separate study providing a detailed assessment of commodities traders.

The filtered entities that WS3 identified were: (i) credit investment funds; (ii) exchange-traded funds (ETFs); (iii) credit hedge funds; (iv) private equity funds; (v) securities broker-dealers; (vi) securitisation entities; (vii) credit insurance providers/financial guarantors; (viii) finance companies; and (ix) trust companies. From its detailed assessment of these filtered entities, WS3 observed a high degree of heterogeneity and diversity in business models and risk profiles not only across the various sectors in the non-bank financial space, but also within the same sector (or entity-type). This diversity is exacerbated by the different legal and regulatory frameworks across jurisdictions as well as the constant innovation and the dynamic nature of the non-bank financial sectors. Together, these factors tend to obscure the economic functions conducted by these entities, and hence to complicate the evaluation of the regulations that do or should apply to them. WS3 therefore developed an economic function-based (i.e. activities-based) perspective for assessing shadow banking activity in non-bank entities. The economic function-based perspective allows the extent of non-bank financial entities’ involvement in shadow banking to be judged by looking through to their underlying *economic functions* rather than *legal names or forms*.

A set of policy tools are proposed to mitigate shadow banking risks inherent in each of the economic functions so that they can be applied across jurisdictions to all entities that conduct the same economic function, while taking account of the heterogeneity of economic functions

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<sup>4</sup> Policy recommendations for MMFs have been developed by a separate FSB shadow banking workstream (WS2) led by IOSCO. See <http://www.iosco.org/library/pubdocs/pdf/IOSCOPD392.pdf>.

<sup>5</sup> FSB (2011) *Shadow Banking: Strengthening Oversight and Regulation*, 27 October (hereafter October 2011 Report). See [http://www.financialstabilityboard.org/publications/r\\_111027a.pdf](http://www.financialstabilityboard.org/publications/r_111027a.pdf).

performed by individual entities within the same sector. The approach is forward-looking in that it is able to capture new structures or innovations that conduct economic functions generating shadow banking risks.

The FSB welcomes comments on this document. Comments should be submitted by **14 January 2013** by email to [fsb@bis.org](mailto: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.

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

***Q1. Do you agree that the high-level policy framework effectively addresses shadow banking risks (maturity/liquidity transformation, leverage and/or imperfect credit risk transfer) posed by non-bank financial entities other than MMFs? Does the framework address the risk of regulatory arbitrage?***

***Q2. Do the five economic functions set out in Section 2 capture all non-bank financial activities that may pose shadow banking risks in the non-bank financial space? Are there additional economic function(s) that authorities should consider? If so, please provide details, including the kinds of shadow banking entities/activities that would be covered by the additional economic function(s).***

***Q3. Are the suggested information items listed in the Annex for assessing the extent of shadow banking risks appropriate in capturing the shadow banking risk factors? Are there additional items authorities could consider? Would collecting or providing any of the information items listed in the Annex present any practical problems? If so, please clarify which items, the practical problems, and possible proxies that could be collected or provided instead.***

***Q4. Do you agree with the policy toolkit for each economic function to mitigate systemic risks associated with that function? Are there additional policy tool(s) authorities should consider?***

***Q5. Are there any costs or unintended consequences from implementing the high-level policy framework in the jurisdiction(s) on which you would like to comment? Please provide quantitative answers to the extent possible.***

## 1. High-level policy framework

In its October 2011 report, the FSB broadly defined shadow banking as the system of credit intermediation that involves entities and activities fully or partially outside the regular banking system, and set out a practical two-step approach in defining the shadow banking system:

- First, authorities should cast the net wide, looking at all non-bank credit intermediation to ensure that data gathering and surveillance cover all areas where shadow banking-related risks to the financial system might arise.
- Second, for policy purposes, authorities should narrow the focus to the subset of non-bank credit intermediation where there are: (i) developments that increase systemic risk (in particular maturity/liquidity transformation, imperfect credit risk transfer and/or leverage), and/or (ii) indications of regulatory arbitrage that is undermining the benefits of financial regulation.

In line with the above approach, the policy framework for other shadow banking entities consists of three elements. The first element is “the framework of five economic functions (or activities)” which authorities should refer to in determining whether non-bank financial entities other than MMFs in their jurisdictions are involved in non-bank credit intermediation that may pose systemic risks or in regulatory arbitrage. In other words, by referring to “the framework of five economic functions (or activities)”, authorities should be able to identify the sources of shadow banking risks in non-bank financial entities in their jurisdictions. The focus is on credit intermediation activities by non-bank financial entities that are close in nature to traditional banks (i.e. credit intermediation that involves maturity/liquidity transformation, leverage and/or credit risk transfer), while excluding non-bank financial entities which do not usually involve significant maturity/liquidity transformation and are not typically part of a credit intermediation chain (e.g. pension funds). Such credit intermediation activities by non-bank financial entities often generate benefits for the financial system and real economy, for example by providing alternative financing/funding to the economy and by creating competition in financial markets that may lead to innovation, efficient credit allocation and cost reduction. However, unlike other non-bank financial activities, these activities create the potential for “runs” by their investors, creditors and/or counterparties, and can be procyclical, hence may be potential sources of systemic instability. These non-bank credit intermediation activities may also create regulatory arbitrage opportunities as they are not subject to the same prudential regulation as banks yet they potentially create some of the same externalities in the financial system. In assessing the extent of shadow banking risks that may be inherent in the activities of a non-bank financial entity, authorities may refer to the suggested indicators listed in the Annex.

The second element of the policy framework is “the framework of policy toolkits” which consists of overarching principles that authorities should apply for all economic functions and a toolkit for each economic function to mitigate systemic risks associated with that function.<sup>6</sup>

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<sup>6</sup> Policy toolkits for each economic function do not include policy recommendations from the other FSB shadow banking workstreams. For example, addressing shadow banking risks that may arise from securities lending and repos (including those possibly arising from such activities by other shadow banking entities) is the subject of FSB shadow banking

The overarching principles aim to ensure non-bank financial entities that are identified as posing shadow banking risks (i.e. other shadow banking entities) are subject to oversight by authorities. The toolkit meanwhile presents a menu of optional policies from which authorities can draw upon as they think best fits the non-bank financial entities concerned, the structure of the markets in which they operate, and the degree of risks posed by such entities in their jurisdictions.<sup>7</sup> The policy tool(s) adopted should be proportionate to the degree of risks posed by the non-bank financial entities, and should take into account the adequacy of the existing regulatory framework as well as the relative costs and benefits of applying the tool. In order for the policy toolkit to be effective, countries should have in place a basic set of pre-requisites, or policy measures that include data collection and basic oversight.

The third element of the policy framework is “information-sharing” among authorities through the FSB process, in order to maintain consistency across jurisdictions in applying the policy framework, and also to minimise “gaps” in regulation or new regulatory arbitrage opportunities. Moreover, such information sharing may be effective in detecting new adaptations and innovations in financial markets. Information should be shared on: (i) which non-bank financial entities (or entity types) are identified as being involved in which economic function<sup>8</sup> and (ii) where they have been used, which policy tool(s) the relevant authority adopted and how. As a next step, WS3 will develop a detailed procedure so that the policy framework can be peer reviewed after the policy recommendations are finalised.

Exhibit 1 provides a schematic overview of the policy framework for other shadow banking entities that includes the above three elements.

An important prerequisite for the implementation of the framework is the ability of authorities to collect relevant data and information. Improvement in transparency through enhancing data reporting and public disclosures is crucial in changing or reducing the incentives of market participants to arbitrage regulation at the boundaries of bank regulation. In this regard, the October 2011 Shadow Banking report recommended high-level principles for authorities to enhance their monitoring of the shadow banking system, including that the relevant authorities should have powers to collect all necessary data and information, as well as the ability to define the regulatory perimeter for reporting.

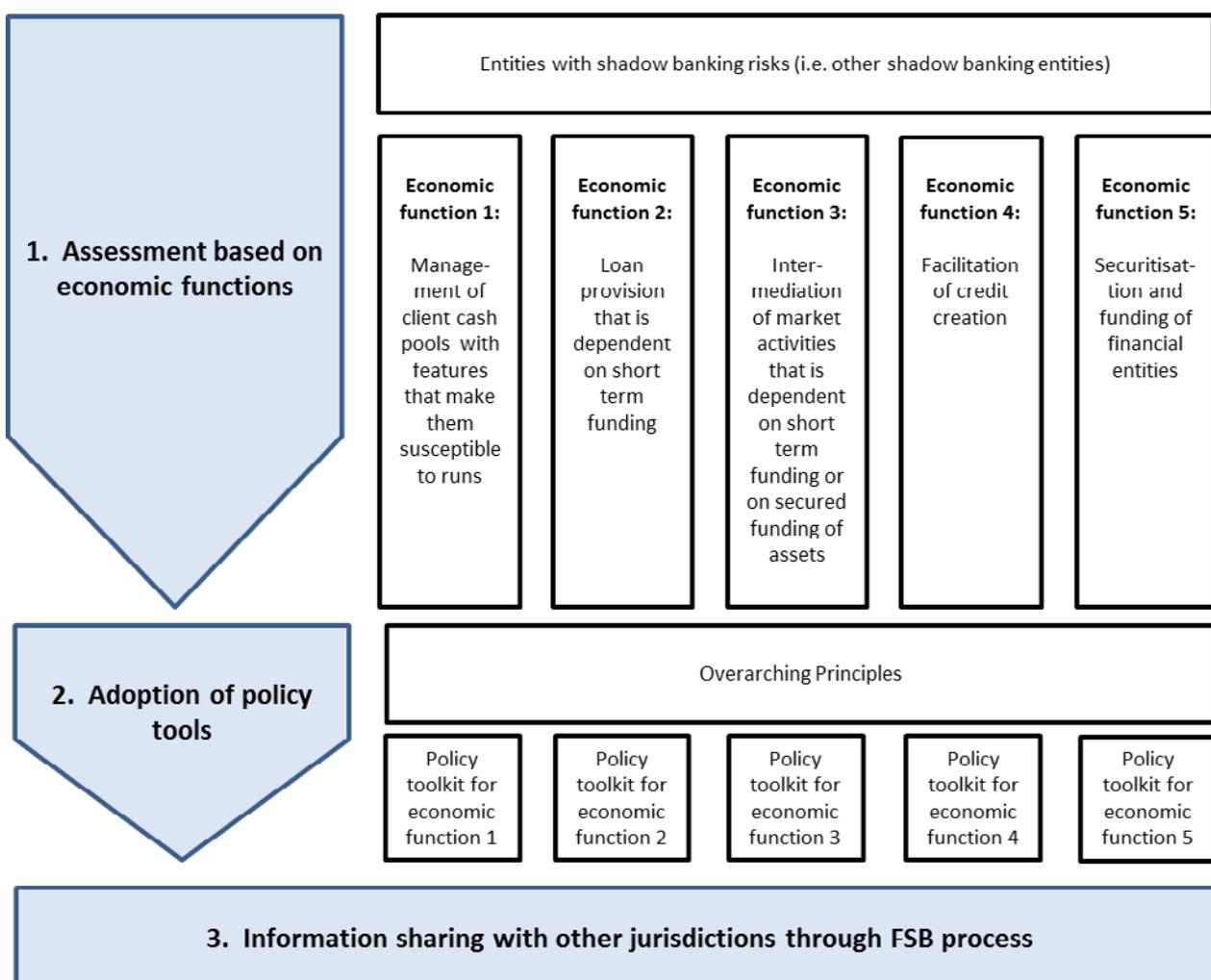
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workstream on securities lending and repos (WS5). Please refer to WS5’s policy recommendations in this regard ([http://www.financialstabilityboard.org/publications/r\\_121118b.pdf](http://www.financialstabilityboard.org/publications/r_121118b.pdf)).

<sup>7</sup> WS3 will develop further guidance including possible prioritisation of tools based on more detailed analysis of pros and cons of each tool and taking into account feedback from the public consultation.

<sup>8</sup> This may include information on any material non-bank financial entities that are not identified as being involved in one of the five economic functions.

## Exhibit 1: Schematic overview of policy framework for other shadow banking entities



## 2. Assessment based on the five economic functions

Drawing on the observations from its detailed assessment of the filtered entities, WS3 developed an economic-functions based framework for classifying other shadow banking entities. Authorities are expected to refer to the five economic functions set out below in assessing their non-bank financial entities' involvement in shadow banking. These economic functions will allow authorities to categorise their non-bank financial entities not by *legal forms* or *names* but by *economic function* or *activities*, and provide international consistency in assessing their risks. In some cases, authorities may classify an entity into more than one type of economic function that gives rise to shadow banking risks if that entity undertakes multiple functions. Authorities will be able to capture new structures or innovations that create shadow banking risks, by looking through to the underlying economic function and risks of these new innovative structures.

The ways in which each of the economic functions gives rise to shadow banking concerns are described below in detail. Examples of possible entity types that fall within each economic

function are also provided. Over time, the FSB will review each of the economic functions as necessary so as to better reflect new innovations and adaptations.

## **2.1 Management of client cash pools with features that make them susceptible to runs**

Pooling of investors' funds and investing those funds with a discretionary mandate in financial products (which may be publicly traded or privately placed) may create "run" risk, to the extent that they engage in maturity or liquidity transformation, and this risk can be intensified if the entity is leveraged. Entities that are engaged in these activities include:

- *Credit investment funds (or mutual funds or trusts) that have a cash management or very low risk investment objective* – Investment funds whose investment objective provides investors with an expectation that their investment will not lose value, and that are fully redeemable upon demand or within a short timeframe can face "run" risk if the funds are perceived to be at risk of experiencing a loss in value. Such funds can maintain a relatively stable value through voluntary support provided by asset management firms or sponsoring banks, and be perceived as having an implicit guarantee. Other mechanisms for enhancing stability in value include regulatory or accounting treatment to allow investment funds to maintain constant/fixed net asset value (NAV) under certain conditions. These investment funds may face serious run risk if their investors no longer perceive the investments as safe due to deterioration in the investment portfolio and/or the ability of the fund's sponsor to prevent losses in value. Possible examples include unregulated liquidity funds, ultra short-term bond funds, short-duration exchange-traded funds (ETFs), and bank-sponsored short-term investment funds.
- *Credit investment funds (or mutual funds or trusts) with external financing or substantial concentrated counterparty exposure* – Investment funds may be exposed to runs from those lending to the fund, either directly (e.g., prime brokerage loans) or implicitly (through derivatives), especially when funds are invested in long-term and/or complex financial instruments that would be difficult and/or costly to liquidate in response to sudden withdrawal by lenders (and investors) of their financing of the fund's positions. Possible examples are credit hedge funds that leverage themselves with short-term funding from banks or securities lending and repos.
- *Credit investment funds (or mutual funds or trusts) with significant holdings in the credit markets or particular segments of the credit markets* – Credit investment funds that are redeemable upon demand or within a short timeframe could be exposed to investor runs under extremely adverse credit market conditions especially when they invest in long-term assets. While in many cases, this type of run may not have any contagion effects on the broader credit markets, it could if the run expanded to cover so many funds that it caused or exacerbated overall credit market conditions. A run could also have broader systemic consequences if it occurred in credit investment funds that in the aggregate held a concentrated position in a particular segment of the credit markets.

## 2.2 Loan provision that is dependent on short-term funding

Provision of loan/credit outside of the banking system, for both retail and corporate customers for any purpose (e.g. consumer finance, auto finance, retail mortgage, commercial property, equipment finance), on a secured or unsecured basis, may result in liquidity and maturity transformation. Entities that are engaged in these activities are likely to compete with banks or to offer services in niche markets where banks are not active players. They often concentrate lending in certain sectors due to expertise and other reasons. This may create significant risks if the sectors they focus on are cyclical in nature (e.g. real estate, construction, shipping, automobiles, and retail consumers). Such risk may be exacerbated if these entities are heavily dependent on short-term deposit-like funding or wholesale funding, or are dependent on parent companies for funding and the parent companies are in sectors which are cyclical in nature. In some cases, they may also be used as vehicles for banks to circumvent regulations.

Examples are as follows:

- *Deposit-taking institutions that are not subject to bank prudential regulation* – Such institutions which take deposits from retail and wholesale customers that are redeemable at notice or within a short timeframe are prone to runs. These institutions may also create regulatory arbitrage for banks to circumvent regulations. Examples are deposit-taking finance companies in New Zealand, whose rapid growth and then collapse created serious systemic risks in 2007-2011.
- *Finance companies whose funding is heavily dependent on wholesale funding markets or short-term commitment lines from banks* – Finance companies may be prone to runs if their funding is heavily dependent on wholesale funding such as ABCPs, CPs, and repos or short-term bank commitment lines. Such run risk can be exacerbated if finance companies are leveraged or involved in complex financial transactions.
- *Finance companies that are dependent on funding by parent companies in sectors that are cyclical in nature and/or are highly correlated with the portfolios of the finance companies* – Finance companies are often funded with strong explicit support from the parent company that usually has a good credit rating. The parental support allows finance companies to obtain funds from financial markets at costs that are sometimes less than banks. However, this may create serious risks if finance companies' loan portfolio and parent company's business are inter-linked or highly correlated. Examples are finance company arms of some automobile companies during the crisis.
- *Finance companies whose funding is heavily dependent on banks that use these companies as a means to bypass regulation/supervision* – Finance companies may be used by banks as vehicles in circumventing regulations or banks' internal risk management policies. For example, banks may lend to finance companies that in turn will lend to borrowers to whom banks may not be able to lend directly due to their internal risk management policies or prudential regulatory requirements.

### **2.3 Intermediation of market activities that is dependent on short-term funding or on secured funding of client assets**

Intermediation between market participants may include securities broking services (i.e. buying/selling of securities and derivatives on and off exchanges including market making role) as well as prime brokerage services to hedge funds. Non-bank financial entities engaged in these activities may be exposed to huge liquidity risks (especially intra-day liquidity risk) depending on their funding model. Where these entities are heavily dependent on funding that uses clients' assets (often via repos), such activities are economically similar to banks' collection and redeployment of deposits into long-term assets (i.e. bank-like activities).

Examples may include:

- *Securities broker-dealers whose funding is heavily dependent on wholesale funding markets or short-term commitment lines from banks* – Broker-dealers may be prone to runs if their funding is heavily dependent on wholesale funding such as ABCPs, CPs, and repos or short-term bank commitment lines. Such run risk can be exacerbated if they are leveraged or involved in complex financial transactions.
- *Securities broker-dealers (including prime brokers) whose funding is dependent on secured funding of client assets or who use client assets to fund their own business* – Securities broker-dealers or prime brokers often utilise clients' assets to raise funds for their own investment/business. Such use of clients' assets may take the form of, for example, repos or re-hypothecation.

### **2.4 Facilitation of credit creation**

The provision of credit enhancements (e.g. guarantees) helps to facilitate bank and/or non-bank credit creation, may be an integral part of credit intermediation chains, and may create a risk of imperfect credit risk transfer. Non-bank financial entities that conduct these activities may aid in the creation of excessive leverage in the system. These entities may potentially aid in the creation of boom-bust cycles and systemic instability, through facilitating credit creation which may not be commensurate with the actual risk profile of the borrowers, as well as the build-up of excessive leverage. Credit rating agencies also facilitate credit creation but are outside the scope as they are not financial entities.

Examples may include:

- *Financial guarantee insurers that write insurance on financial products (e.g. structured finance products) and consequently facilitate potentially excessive risk taking or may lead to inappropriate risk pricing while lowering the cost of funding of the issuer relative to its risk profile.* – For example, financial guarantee insurers may write insurance of structured securities issued by banks and other entities, including asset-backed securitisations, and often in the form of credit default swaps. Prior to the crisis, US financial guarantee insurers originated more than half of their new business by writing such insurance. While not all structured products issued in the years leading up to the financial crisis were insured, the insurance of structured products helped to create excessive leverage in the financial system. In this regard, the insurance contributed to the creation of large amounts of structured finance products by lowering the cost of issuance

and providing capital relief for bank counterparties through a smaller capital charge for insured structures than for non-insured structures. Because of large losses on structured finance business, financial guarantee insurers have in some cases entered into settlement agreements with their counterparties under which, for the cancellation of the insurance policies, the counterparties accepted some compensation from the insurer in lieu of full recovery of losses. In other cases, financial guarantee insurers have been unable to pay losses on insured structured obligations when due. These events exacerbated the crisis in the market.

- *Financial guarantee companies whose funding is heavily dependent on wholesale funding markets or short-term commitment lines from banks* – Financial guarantee companies may provide credit enhancements to loans (e.g. credit card loans, corporate loans) provided by banks as well as non-bank financial entities. Such financial guarantee companies may be prone to “runs” if their funding is heavily dependent on wholesale funding such as ABCPs, CPs, and repos or short-term bank commitment lines. Such run risk can be exacerbated if they are leveraged or involved in complex financial transactions.
- *Mortgage insurers that provide credit enhancements to mortgages and consequently facilitate potentially excessive risk taking or inappropriate pricing while lowering the cost of funding of the borrowers relative to their risk profiles* – Mortgage insurance is a first loss insurance coverage for lenders and investors on the credit risk of borrower default on residential mortgages. Mortgage insurers can play an important role in providing an additional layer of scrutiny on bank and mortgage company lending decisions. However, such credit enhancements may aid in creating systemic disruption if risks taken are excessive and/or inappropriately reflected in the funding costs of the banks and mortgage companies.

## **2.5 Securitisation and funding of financial entities**

Provision of funding to related-banks and/or non-bank financial entities, with or without transfers of assets and risks from banks and/or non-bank financial entities, may be an integral part of credit intermediation chains (or often the regular banking system). In some cases, however, it may possibly aid in the creation of excessive maturity and liquidity transformation, leverage or regulatory arbitrage in the system. Such activities may provide other functions but are also used by banks and/or non-bank financial entities for funding/warehousing as well as to avoid bank regulations. This was particularly the case leading up to the crisis, where this form of arbitrage was widespread. Consequently, many securitisation markets saw significant contractions in activity or were essentially “frozen”. Since then, many securitisation markets, especially for the more opaque and more complex products, have been very slow to recover. However, regulators need to be alert to a potential resumption of large-scale activity, while facilitating the recovery of sound securitisation activities.

Examples may include:

- *Securitisation entities that are used to fund long-term, illiquid assets by raising shorter-term funds* – Securitisation entities may purchase or provide credit enhancements to a pool of loans provided by banks and/or non-bank financial entities, and issue ABCPs and

other securities that are backed by such loan pool. Banks usually provide liquidity facilities to allow securitisation entities to reduce costs of funding. This, however, would create maturity/liquidity transformation and leverage in the system, as well as increasing interconnectedness between the banking system and non-bank financial entities. Under Basel I, securitisation entities were also used by banks to circumvent capital regulation as liquidity facilities are treated as 0% risk weights.

- *Investment funds or other similar structures that are used by banks (or non-bank financial entities) to fund illiquid assets by raising funds from markets* – Synthetic ETFs, for instance, may be used by banks and/or non-bank financial entities to raise funding against an illiquid portfolio on their balance sheet that cannot otherwise be financed in the wholesale market through, for example, repos. The same may be said for physical ETFs, or other investment funds, where they provide a bank with a pool of lendable securities to be used for repo financing.

### 3. The framework of policy toolkits

Shadow banking risks arise from each of the economic functions in different ways; hence WS3 has developed a policy toolkit for each economic function. WS3 members think some tools are overarching principles that the relevant authorities should apply to non-bank financial entities in all economic functions (as set out in Section 3.1) while other measures can be applied selectively as appropriate (as set out in Section 3.2). For the latter, authorities should select the appropriate policy tool(s) from the global policy toolkit to mitigate shadow banking risks of non-bank financial entities in their jurisdictions and should apply them in a consistent and effective manner. Authorities should also refer to policy recommendations made by other FSB shadow banking workstreams as relevant.<sup>9</sup>

The detailed design of overarching principles and each option may be guided by the five general principles for regulatory measures in the October 2011 Shadow Banking report. They are namely:

- **Focus:** Regulatory measures should be carefully designed to target the externalities and risks the shadow banking system creates.
- **Proportionality:** Regulatory measures should be proportionate to the risks shadow banking poses to the financial system.
- **Forward-looking and adaptable:** Regulatory measures should be forward-looking and adaptable to emerging risks.
- **Effectiveness:** Regulatory measures should be designed and implemented in an effective manner, balancing the need for international consistency to address common risks and to avoid creating cross-border arbitrage opportunities against the need to take

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<sup>9</sup> Thus, the policy tools in Section 3.2 do not include policy recommendations from other FSB shadow banking workstreams. For example, although the entities covered under the scope of these economic functions may also give rise to shadow banking risks through their involvement in securities lending and repos (e.g. securities lending by ETFs), the policy options for addressing such risks are not specifically discussed here, as they are the subject of WS5. In such case, authorities should refer to WS5's policy recommendations.

due account of differences between financial structures and systems across jurisdictions.

- **Assessment and review:** Regulators should regularly assess the effectiveness of their regulatory measures after implementation and make adjustments to improve them as necessary in the light of experience.

With the establishment of an information-sharing process among members through the FSB (which is described in the next section), this global policy framework for other shadow banking entities will help ensure consistency in the policy actions applied, as they are designed by looking to the underlying economic functions rather than legal forms and structures, and offer a standard set of options to address the shadow banking risks arising from each underlying economic function.

### 3.1 Overarching principles

Non-bank financial entities that are identified as posing shadow banking risks through their involvement in one or more of the economic functions described in section 2 (i.e. other shadow banking entities) should be subject to oversight. In this regard, authorities should refer to the following overarching principles:

***Principle 1: Authorities should have the ability to define the regulatory perimeter.***<sup>10</sup>

In order to effectively address the shadow banking risks arising from the activities of certain non-bank financial entities, especially where strict policy measures (e.g. capital and liquidity buffers) are required, the relevant authorities should have the ability to bring the relevant entity into their regulatory and supervisory oversight if necessary to ensure financial stability. In this regard, as a key prerequisite to addressing the systemic risks of other shadow banking entities through policy tools, authorities should have the ability to define and expand the regulatory perimeter, or contribute to relevant processes, where necessary to ensure financial stability.

***Principle 2: Authorities should collect information needed to assess the extent of risks posed by shadow banking.***

Once an entity is identified as having the potential to pose risks to the financial system arising from its involvement in shadow banking, information should be collected for authorities to be able to assess the degree of *maturity/liquidity transformation* and use of *leverage* by other shadow banking entities, to allow authorities to decide on the appropriate rectification measures. Authorities should put in place the systems, processes and resources to collect and analyse such information. Authorities should also exchange appropriate information both within and across the relevant jurisdictions on a regular basis to be able to assess the risks posed by other shadow banking entities.

***Principle 3: Authorities should enhance disclosure by other shadow banking entities as necessary so as to help market participants understand the extent of shadow banking risks posed by such entities.***

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<sup>10</sup> This is in line with the high principles for monitoring the shadow banking system set out in the October 2011 report available at [http://www.financialstabilityboard.org/publications/r\\_111027a.pdf](http://www.financialstabilityboard.org/publications/r_111027a.pdf). In particular, see paragraph 2.1(iii).

Enhanced market disclosure and transparency (e.g. overall firm risk exposures, interconnectedness, funding concentration and aggregated maturity profiles of asset and liabilities) will help market participants to better monitor the entities, absorb any news/developments in a timely manner, and make informed decisions, hence avoiding sudden loss of confidence that may lead to runs.

***Principle 4: Authorities should assess their non-bank financial entities based on the economic functions and take necessary actions drawing on tools from the policy toolkit.***

Authorities should put in place the high-level policy framework for other shadow banking entities which consists of: (i) regular assessment of non-bank financial entities' involvement in credit intermediation that may pose systemic risks or in regulatory arbitrage based on the five economic functions; (ii) adoption of policy tool(s) from the policy toolkit to mitigate the risks identified; and (iii) sharing of information with other authorities to provide for a level of international consistency. Its implementation will allow authorities to identify sources of shadow banking risks in the non-bank financial space; mitigate the risks identified; and minimise any "gaps" in regulatory approaches.

## **3.2 Policy toolkits**

### ***3.2.1 Management of client cash pools with features that make them susceptible to runs***

#### ***Tool 1: Restrictions on maturity of portfolio assets***

Restrictions on the maturity of portfolio assets help mitigate the risks arising from maturity transformation created by funds. Examples of such restrictions are limits on the duration or weighted average maturity of the fund's portfolio and limits on the residual maturity of portfolio securities. Restrictions could be tailored to reflect the level of risk associated with the fund's investment objective. These restrictions can limit the extent that these funds can assume risk inconsistent with their investment objective and help reduce their susceptibility to "runs". On the other hand, such restrictions can also limit a fund's yield by restricting fund investors' desired risk-return profiles. Such measures would be particularly relevant for funds or vehicles perceived as very low risk and whose investment objective provides investors with an expectation that their investment will not lose value (e.g. unregulated liquidity funds, ultra short-term bond funds, short-duration ETFs, and bank-sponsored short-term investment funds).

#### ***Tool 2: Limits on leverage***

Certain funds may employ leverage to enhance their returns. However, such leverage may become a threat to financial stability especially if employed by large funds or if they create risk by the investment vehicle's interconnectedness to banks. Authorities may impose limits on the leverage employed by the entities or require them to maintain a sufficient buffer of liquid assets to meet the potential pressures from creditor runs. These measures could mitigate the pro-cyclicality of market movements, especially in the event of market distress, reduce any implicit "government safety net" attached to highly leveraged funds and lead to more prudent risk management of the entity. Possible disadvantages include impediments to a fund's portfolio investment flexibility and potential difficulty in calibrating the limits for different investment strategies (i.e. some strategies are only "efficient" if they operate on a

highly leveraged basis). This type of tool should be tailored to the type of entity under consideration and its specific features but would generally be deemed appropriate for hedge funds.

### ***Tool 3: Tools to manage liquidity risk***

#### ***Tool 3a: Limits on asset concentration***

Limits on asset concentration (e.g. quantitative limit on the proportion of portfolio assets that may be invested in any one issuer/sector) may be imposed by authorities to manage risk, thus mitigating redemption pressures from investors during adverse market conditions. Funds with concentrated asset portfolios will face higher redemption pressures compared to funds with more diversified portfolios. The higher the asset concentration, the more difficult or costly it may be to unwind positions in order to meet redemption pressures. Funds facing redemption pressures typically will sell their most liquid assets first, creating a first-mover advantage for early redeemers, hence triggering a rush to redeem. Furthermore, where adverse market conditions affect a particular market segment, fund managers may have difficulty liquidating their positions to meet redemption requests. Restrictions on concentrations in particular credit market segments/industries would thus lessen the risk of large-scale "runs" in adverse market conditions.

#### ***Tool 3b: Limits on investments in illiquid assets***

As a further tool to manage liquidity risk, such restrictions may take the form of a quantitative limit on the proportion of portfolio assets that could be invested in illiquid assets such as those with no observable market prices (i.e. no secondary markets). The larger the proportion of illiquid assets, the more difficult or costly it may be to unwind positions in order to meet redemptions that may increase as the extent of liquidity transformation becomes larger. Funds facing redemption pressures typically will sell their most liquid assets first, creating a first-mover advantage for early redeemers. If investors understand this, a run can develop when there are adverse market conditions affecting the fund's investments. Appropriate restrictions may therefore lessen "fire sale" risks and consequent "runs". Possible drawbacks are the likely reduction of investment opportunities.

#### ***Tool 3c: Liquidity buffers***

Authorities may address liquidity risk by imposing requirements for liquidity buffers (e.g. as a proportion of an invested portfolio) to mitigate excessive liquidity transformation or the impact of increased redemptions in an event of market stress caused by such liquidity transformation. Liquidity buffers comprised of highly liquid cash or near-cash instruments would provide internally generated liquidity to satisfy redemptions and thus lessen the need for funds to engage in fire-sales in the face of heightened redemptions or a "run". The size of such buffers should be calibrated based on the nature of the fund and the types of stresses it may face. Liquidity buffers may be appropriate, for example, for real estate vehicles which offer on demand redemptions or for vehicles perceived as very low risk and whose investment objective provides investors with an expectation that their investment will not lose value. However, this tool can only be effective in containing a certain level of redemption pressures. It would also weigh on the performance of funds and restrict their capacity to invest in the advertised strategy. Furthermore, there is a shortage of liquid assets in certain jurisdictions which could present challenges in implementing this tool.

#### ***Tool 4: Tools for managing redemption pressures in stressed market conditions***

##### ***Tool 4a: Side pockets***

Side pockets are a tool for funds to manage maturity/liquidity risks by legally separating the impaired portions of an investment portfolio to prevent them from impacting a fund's returns and manage the resulting redemption pressures over the short-term. Typically, these may be put into place when a portion of a portfolio cannot be properly valued as a result of adverse market circumstances affecting one or more of its individual components. As a result of this segregation, a fund would continue its normal operations by satisfying redemptions, generating returns from the higher quality portion of its portfolio, and avoiding an increase in redemption demands, while waiting for market conditions to stabilise. Once market conditions stabilise, the manager may be able to adequately value and liquidate the impaired assets. Authorities may require all funds to utilise such side pockets in mitigating the impact of redemption pressures. However, there may be conflicts of interests if a manager is allowed to determine whether to use side pockets. Activation of side pockets may also send negative market signals and thus exacerbate the risk of a “run”, or can lead investors to redeem from similar funds. Furthermore, side pockets would only be effective when the redemption pressure is triggered by a problem related to specific assets. It cannot address a widespread run.

##### ***Tool 4b: Redemption gates***

Redemption gates allow funds to manage redemption requests. By using gates, funds constrain the redemption amounts to a specific proportion on any one redemption day. Thus, gates are a measure for funds to manage maturity mismatches (or maturity transformation) by prolonging the term of a fund's liabilities. They can ease redemption pressures and thus prevent a “run” or other “herding” behaviour. Authorities may require the relevant funds to utilise such gates under appropriate circumstances to mitigate the impact of redemption pressures. However, the imposition of gates can send negative market signals leading to pre-emptive runs and can lead investors to redeem from similar funds out of fear that they may in turn also to impose gates.

##### ***Tool 4c: Suspension of redemptions***

Suspension of redemptions is another tool that authorities may require funds to use in mitigating the impact of redemption pressures. The suspension of redemptions would achieve the same purpose (i.e. mitigating maturity transformation) as redemption gates, albeit in a stronger manner. It is an exceptional measure supposed to allow sufficient time for the manager to assess the situation, see if it can be remedied and decide whether to reopen the fund for redemptions or arrange for an orderly liquidation. However, as with gates, investors may interpret the news of a suspension negatively and react by redeeming or liquidating other investments. If perceived as a sign that the fund has great difficulties, it may also create an incentive for a “run” once the fund is reopened. Nonetheless, in some situations suspensions have been an effective means to mitigate runs and scope to be able to impose suspensions should be included in the regulatory framework and in individual fund contracts with investors.

#### ***Tool 4d: Imposition of redemption fees or other redemption restrictions***

As a further tool to address risks associated with maturity transformation, authorities may require funds to impose redemption fees that would make redemptions costly to investors thus restraining redemptions. Unlike the tools analysed above, redemption fees would offer investors the benefit of having a choice over whether to redeem immediately (albeit at a cost) or remain invested in the fund (and avoid the fee). Fees may be applied at all times or be imposed depending on market contingencies. In the case of trigger-based redemption fees, however, there is a risk that the fear of fees being imposed can send a negative signal to the market and lead to a pre-emptive run.

#### ***3.2.2 Loan provision that is dependent on short-term funding***

##### ***Tool 1: Impose bank prudential regulatory regimes on deposit-taking non-bank loan providers***

If these non-bank financial entities that provide loans raise funds through deposits, the *maturity/liquidity transformation* and the *leverage* they create may have exactly the same effect as banks. Thus, to mitigate these risks (and protect depositors), entities which raise funds through deposits should be subject to prudential regulations that are equivalent to those for banks, or alternatively such entities should be prohibited from taking deposits.

##### ***Tool 2: Capital requirements***

An appropriate level of capital is crucial for entities that provide loans so that they can absorb the losses that may reasonably be expected to result from these activities. It is also crucial in incentivising such entities to manage credit risks associated with loans, so that their loan provision would not result in excessive leverage in the financial system. Thus, authorities should require such entities to hold capital that is sufficient to cover potential losses from the risks taken. Such capital should be set with a long-term time horizon in mind. These entities, as with banks, may have a procyclical effect on credit availability and hence on the real economy by expanding their businesses and facilitating the creation of credit in boom times where risk appetite is high and credit costs and losses are low, and scaling down their businesses in turbulent times. Therefore, the requirements should where appropriate be designed and calibrated to be countercyclical. The implementation challenge is in the calibration of the capital level/ratios as well as determination of the eligible capital instruments to suit the sectoral and jurisdictional specificities of these entities, especially when they are likely to exhibit higher heterogeneity in business/risk profiles across jurisdictions compared to banks. Whatever capital instruments that are determined to be eligible should have sufficient loss absorbing capacity.

##### ***Tool 3: Liquidity buffers***

To counteract potential stress and run risks from short-term liabilities, and to address the risks arising from *maturity/liquidity transformation*, authorities may impose liquidity regulation based on requiring liquidity buffers of a certain size and composition. Such requirements may also help safeguard the entities against stress arising for reputational reasons where an entity is highly interconnected to other entities within its parent group. However, the size of the buffers and types of eligible liquid assets may have to be calibrated and tailored to the

characteristics of the entities which may differ from banks, especially where the entities do not take deposits.

#### ***Tool 4: Leverage limits***

To mitigate the potential risks arising from the entities' use of *leverage*, especially where the entities' leverage is at a level where it may pose a threat to financial stability, authorities should impose leverage limits on the entities as appropriate. This will help curtail procyclicality in non-bank entities that may not be otherwise prudentially regulated in a sufficient manner. As with the other quantitative prudential requirements, such constraints on leverage should be calibrated to suit the specificities of the entities. For example, the appropriate level of leverage may differ depending on the market they are involved in (e.g. retail versus wholesale) and the significance within the financial system (e.g. size, inter-connectedness). Authorities should nevertheless bear in mind the potential regulatory arbitrage with banks that are under the Basel III leverage ratio regime.

#### ***Tool 5: Limits on asset concentration***

The risks arising from *maturity/liquidity transformation* as well as *leverage* can be exacerbated when an entity is exposed to significant risks to asset quality, such as when there are significant concentrations in the asset composition. Such asset concentration increases the vulnerability of an entity to a downturn as well as accelerates easy credit in the system. To avoid large firm-specific negative trends spreading/reverberating on the credit intermediation chain, authorities may impose limits on asset concentration (e.g. quantitative limits on loans to a particular obligor/instrument/sector). These limits, however, may need to be tailored to an entity's specificity, to avoid eliminating smaller specialised lenders. Further, limits on asset concentration need to be balanced with the fact that there can be benefits in lenders focusing on the markets they know best and managing risks more appropriately rather than diversifying into less familiar markets.

#### ***Tool 6: Restrictions on types of liabilities***

A direct restriction on the types of liabilities will eliminate or reduce the risks such as run risks associated with particular liability types such as ABCPs. Such restrictions may be prohibiting certain use of funding instruments like ABCPs in cases where entities do not have appropriate securitisation and risk management processes in place. Also it may involve concentration limits on the particular lender/sector/instrument. They will help mitigate the risks arising from *maturity/liquidity transformation*.

#### ***Tool 7: Monitoring of the extent of maturity mismatch between assets and liabilities***

By relying on short-term funding and investing in long term assets, entities can be faced with significant liquidity pressures in the event of runs, especially if a significant portion of their funding is obtained from instruments such as demand deposits. The extent of *maturity/liquidity transformation* needs to be properly monitored by the entities and relevant authorities, so that timely action can be taken to mitigate the associated risks. Authorities should for example monitor weighted-average remaining maturity for assets/liabilities or collect outstanding amount assets/liabilities data by appropriate maturity buckets on a regular basis. The challenge lies in the evaluation of "reasonable" mismatches, as there is no commonly-agreed hurdle beyond which the maturity mismatch between assets and liabilities

can be considered excessive. Moreover, additional resources will be needed to analyse the data and to conduct ongoing monitoring.

***Tool 8: Monitoring of links (e.g. ownership) with banks and other groups***

Authorities should review the potential interconnectedness risks from entities: including where they are owned by banks (thus, subject to consolidated supervision of banking groups); where they are “captive” finance companies (such as subsidiaries of auto companies); or finance companies which themselves have financial/banking subsidiaries, particularly where these include foreign activity. Such monitoring will enhance the appreciation of the degree of interconnectedness of an entity with parent companies (which may be banks or industrial groups etc.), allowing prompt actions to be taken in times of crisis to mitigate contagion risks. Interconnectedness to banks and other financial institutions through channels other than ownership (e.g. loans, repos, debt securities holdings) should also be monitored. It should be noted that if an entity is captured in consolidated supervision of a parent bank, many of the above tools may already be in place.

***3.2.3 Intermediation of market activities that is dependent on secured funding of client assets or on short-term funding***

***Tool 1: Impose prudential regulatory regimes equivalent to those for banks***

The *maturity/liquidity transformation* being carried out, and the *leverage* used by these non-bank market intermediaries may lead to their having the same risk profile as banks, including susceptibility to runs especially by lenders and other counterparties in wholesale markets, although long-term assets used as collateral are usually highly liquid in normal times. This creates concerns from a financial stability perspective and also regulatory arbitrage opportunities. In such cases, authorities could subject these entities to prudential regulatory and supervisory regimes that are functionally equivalent to banks. However, this may seem to be a rather blunt requirement for entities that do not take deposits and do not make long-term loans.

***Tool 2: Liquidity requirements***

Depending on the extent to which these non-bank financial intermediaries transform liquidity, authorities could impose liquidity requirements on the entities to mitigate risks associated with liquidity transformation. Liquidity requirements will ensure proper liquidity risk management as well as a sufficient buffer of liquid assets so as to increase the resilience of these entities to runs which may trigger systemic crises, either directly due to the collapse of a counterparty, or indirectly through an erosion of market confidence which may spread across the financial system. Such liquidity measures should be similar in spirit to the Basel III liquidity requirements (i.e. LCR and NSFR), although the exact form should be tailored to the specificities of the entities and/or jurisdictions. One possible form could be the “laddering” of the maturities of an entity’s liabilities so that only a small fraction of its debt needs to be re-financed within a short period of time. Authorities may also limit the entities’ reliance on certain types of funding (e.g. repos).

***Tool 3: Capital requirements***

Authorities may impose minimum capital requirements to mitigate excessive use of *leverage* as well as procyclicality associated with their funding structure. Such requirements may take

the form of a minimum capital ratio or minimum levels of liquid net capital. While the former will take into consideration the (risk-adjusted) size of the balance sheet, the latter may not, which means the former may be more complicated to implement. Such requirements can increase broker-dealers' resilience to credit shocks (e.g. counterparty defaults, MTM write downs on assets). The minimum requirement may be calibrated to the level of risk. The benefits of such requirements may also have to be balanced with any potential impact on market intermediation and market liquidity.

#### ***Tool 4: Restrictions on use of client assets***

Due to the nature of their business, these entities may at times hold client assets, e.g. in their roles as prime brokers. If these entities use client assets to fund their own longer term assets, the entities are essentially carrying out maturity/liquidity transformation similar to banks that collect short term deposits to fund long term loans. To mitigate the run risks arising from *maturity/liquidity transformation*, client monies and unencumbered assets should be segregated and should not be used to finance the entities' business. Only entities subject to adequate regulation of liquidity risk should be allowed to engage in the re-hypothecation of client assets.<sup>11</sup> In cases where regulatory regimes permit re-hypothecation or clients may agree to arrangements where they allow the entities to re-hypothecate their assets held as collateral, authorities may impose limits on re-hypothecation which helps to reduce leverage. These restrictions may reduce the likelihood of client runs on the entities, but the benefits will need to be balanced against any potential impact on market intermediation, market liquidity and the availability of liquid, collateral-eligible assets in the system as a whole.

### ***3.2.4 Facilitation of credit creation<sup>12</sup>***

#### ***Tool 1: Minimum capital requirements***

An appropriate level of capital is crucial for entities that may facilitate credit creation through providing financial guarantees and credit insurance, so they can absorb the losses that may result from these activities. It is also crucial in incentivising such entities to price their products appropriate to the risk they take, so that their facilitation of credit intermediation would not result in excessive leverage in the financial system. Thus, authorities should require such entities to hold capital that is sufficient to cover potential losses from the risks taken. Such capital should be set with sufficiently long-term time horizon in mind. These entities may have a procyclical effect on credit availability and hence on the real economy by expanding their businesses and facilitating the creation of credit in boom times where risk appetite is high and credit costs and losses are low, and scaling down their businesses in turbulent times. Therefore, the capital requirements should ideally be designed and calibrated to be countercyclical. Since these entities may facilitate credit intermediation abroad, authorities should take into account jurisdiction-specific factors in designing the minimum capital requirements while maintaining international consistency to address common risks and to avoid creating cross-border arbitrage opportunities

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<sup>11</sup> This is in line with WS5's policy recommendations.

<sup>12</sup> Credit insurers and guarantors are, in essence, insurance companies. It can therefore be argued that they should be prudentially supervised like any other insurance company. Where this is the case, the tools may be viewed as considerations informing the prudential regime, rather than separate tools.

### ***Tool 2: Restrictions on scale and scope of business***

Entities that may facilitate credit creation through providing financial guarantee and credit insurance products should be able to price and manage the associated risks in an appropriate manner. If they are not able to do so, authorities should impose restrictions on the scale and scope of their businesses as appropriate, or completely prohibit their involvement in the business. Authorities may also establish guidelines and procedures that entities must follow to ensure that business written is within appropriate risk profiles. Before an entity may begin insuring, guaranteeing or otherwise facilitating the creation of credit related to a new class of asset or market sector, they should also be required to file a proposal to conduct the business with the appropriate regulatory and supervisory agencies. The authorities should have the opportunity to determine appropriate exposure limits for the proposed business prior to approving entities to begin conducting that business. Implementing appropriate limits for exposure to various types of covered risks (including market sectors within those types) relative to the capital/surplus funds would help avoid cases where entities enter into new and unfamiliar markets which could lead to significant losses and economic impact.

### ***Tool 3: Liquidity buffers***

In certain instances, these entities may be funded with short-term instruments. While they may not be directly involved in classic bank-type maturity/liquidity transformation, they may nevertheless be prone to creditor runs through indirectly taking on risks. If an entity facing such runs does not have sufficient liquidity buffers, its collapse may be imminent. Where the entity is important in supporting credit intermediation chains, its collapse may trigger wider problems for the financial system. Even in normal times, entities will need to maintain sufficient liquidity to satisfy their insurance/guarantee liabilities when they become due. In this regard, authorities should impose liquidity requirements to ensure that these entities maintain sufficient liquidity buffers through both normal and stressed periods.

### ***Tool 4: Enhanced risk management practices to capture tail events***

Enhanced risk management practices such as through introducing loss modelling including appropriate stress testing are important for entities which provide financial guarantees and credit insurance, in order for them to assess the extent of losses that they may suffer in economic downturns or isolated stress events. In this regard, where appropriate, authorities should mandate periodic loss modelling with stress-testing for these entities, taking into consideration all relevant risk factors and an appropriate range of adverse circumstances and events. Stress testing may also be used to validate the entities' models and to complement the use of models for risks that are difficult to model. If loss modelling with stress tests is properly conducted at appropriate frequencies, these entities should be able to better understand their risks and potential exposures, hence allowing management to take appropriate actions to mitigate their risks. Such actions may be beneficial from the perspective of financial stability if they result in an appropriate pace of credit creation and use of leverage in areas where risks are building up rapidly.

### ***Tool 5: Mandatory risk-sharing between the insurer/guarantor and insured/guaranteed (i.e., deductible, co-insurance)***

The amount of credit risk transfer, and thus the risk of imperfect credit risk transfer, can be reduced if the insured (or guaranteed) entities retain some of the credit risk. This can be

accomplished by either a deductible, where the initial loss remains with the insured/guaranteed, or a co-payment, where losses are proportionately shared between the insured/guaranteed and the insurer/guarantor. Risk sharing has the further advantage of encouraging the insured to carefully scrutinise the risk profile of the underlying borrower, potentially reducing the build-up of inappropriate or excessive leverage. On the other hand, risk sharing exposes the insured/guaranteed, potentially a bank or other non-bank financial institution, to increased credit risk, increasing the riskiness of that institution. And where the cost of independently assessing the underlying credit risk is high, for example, because of a large number of small borrowers with unique characteristics, some lenders may choose not to lend rather than retain some of the risk. To give effect to the tool, appropriate information-sharing between the insurer/guarantor and the insured/guaranteed will be needed.

### ***3.2.5 Securitisation and funding of financial entities<sup>13</sup>***

#### ***Tool 1: Restrictions on maturity/liquidity transformation***

To the extent that securitisation vehicles are used as funding channels via the issuance of short-term liabilities (e.g. in the case of ABCP issuance), restrictions on differences in maturity between the securities issued and the underlying asset pool are a direct method to limit the risks arising from the *maturity/liquidity transformation* through securitisation. Appropriate liquidity rules on securitisation vehicles will also enhance their resilience and help mitigate the risks arising from the *liquidity transformation*. Such restrictions will reduce the roll-over risk of the asset-backed securities (ABS) issued and excessive reliance on support from sponsors (e.g. banks). However, authorities may face difficulties in assessing the appropriate maturity mismatch beyond which restrictions should be imposed. Also, such restrictions would have to be tailored to different securitisation structures, taking into account their respective strategies.

#### ***Tool 2: Restrictions on eligible collateral***

Certain non-bank financial entities may be used by banks and/or other financial entities to fund an illiquid portfolio on their balance sheet that cannot otherwise be financed in the wholesale market (e.g. through repos). In such situations, these entities may aid in an excessive build-up of leverage in the financial system as well as liquidity transformation. In the event that the illiquid portfolio deteriorates in quality, there is also significant potential for contagion to the wider financial system. To mitigate these risks, authorities should impose restrictions on the quality of collateral that may be accepted or “swapped” (i.e. eligible collateral). Collateral that is highly liquid and trades on a regulated and transparent market can be sold rapidly to neutralise or mitigate losses from counterparty non-performance or default. However, tighter collateral requirements are likely to reduce the amount of available eligible collateral and may cause funding pressures. Furthermore, the quality of collateral can quickly deteriorate during a crisis, so “high quality” collateral in normal times may not be so during a crisis. Collateral and other specific liquidity requirements would need to be

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<sup>13</sup> When applying the following policy tools to securitisation entities, regulators should firstly acknowledge the difference between traditional bank-based securitisation structures and those put in place by other both financial (i.e. non-bank) and non-financial entities (e.g. corporates).

articulated in the light of other recent regulatory developments, e.g. international rules on the mandatory clearing of derivatives, their relative margining agreements, etc.

***Tool 3: Restrictions on exposures to, or funding from, banks/other financial entities***

Banks or other financial entities may take advantage of alternative sources of funding such as securitisation which may be cheaper or more readily available than, for example, deposits or inter-bank funding. Such alternative funding sources may inadvertently aid in the excessive creation of credit and build-up of leverage similar to the events that led to the subprime crisis, conditional on lending standards applied to the underlying assets being allowed to ease excessively. They may also create regulatory arbitrage opportunities that might undermine the effectiveness of financial regulations. To reduce over-reliance by financial entities on such funding sources and avoid the creation of ad hoc vehicles, authorities should impose restrictions on the exposures of banks or of other financial entities to such funding vehicles. For example, authorities can impose limits on non-bank entities' overall exposure to banking counterparties (including intra-group), as well as diversification limits to single counterparties, net of collateral requirements. The benefits of such restrictions may have to be balanced with potential for pressures on funding for the financial entities concerned and with possible adverse implications on market efficiency.

#### **4. Information-sharing process**

Consistency across jurisdictions in applying the policy framework to similar risks is important, to minimise regulatory “gaps” remaining as well as new regulatory arbitrage opportunities. This is achieved if authorities share appropriate information with each other and recommend further actions if inconsistencies or gaps are identified through that process. Such information sharing may also be effective in detecting new adaptations and innovations in the financial market.

Information should be shared on: (i) which non-bank financial entities (or entity types) are identified as being involved in which economic function<sup>14</sup> and its rationale explained by each shadow banking risk factors; as well as (ii) which policy tool(s) the relevant authority adopted and how. FSB members will set up an information-sharing process to share such information and make recommendations as necessary to the relevant FSB Standing Committees. This information sharing process will start from one year after the FSB finalises its recommendations for other shadow banking entities.

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<sup>14</sup> This may include information on any material non-bank financial entities that are not identified as being involved in one of the five economic functions.

**Annex: Suggested information items for assessing the extent of shadow banking risks inherent in the activities of non-bank financial institutions**

In assessing the extent of shadow banking risks inherent in the activities of a non-bank financial institution that are associated with one of the five economic functions, authorities should conduct analyses based on qualitative and quantitative information obtained through regulatory/supervisory reporting, market intelligence and/or public disclosures.

The information items listed in the table below are for authorities to refer to when they conduct an assessment of shadow banking risks. A possible starting point for analysis, in keeping with the general principle of proportionality, is the size of the sector engaging in the economic functions. Authorities may refer to single or multiple information items for each risk factor and assess the riskiness based on such items. These items should not be regarded as comprehensive - authorities may refer to other information items that need to be clarified through information sharing processes with other authorities. After assessing the information, authorities should conduct more detailed analysis of risks at the entity-level. The following items are based on the October 2011 Report as well as inputs from FSB members. The shaded risk factors are to be considered more important than others. They will be reviewed as necessary.

	Maturity transformation	Liquidity transformation	Imperfect credit risk transfer	Leverage
Economic function #1: Management of client cash pools	<ul style="list-style-type: none"> <li>• Weighted-average remaining maturity of assets/liabilities</li> <li>• Weighted-average original maturity of assets/liabilities</li> <li>• Outstanding amount of assets/liabilities by remaining maturity buckets</li> </ul>	<ul style="list-style-type: none"> <li>• Outstanding amount of “liquid” assets/liabilities (e.g. based on exchange-traded v OTC and/or bid-ask spread)</li> <li>• Ratio of liquid assets/liabilities to total assets/liabilities</li> <li>• Profile of portfolio liquidity in secondary</li> </ul>	<ul style="list-style-type: none"> <li>• Outstanding amount of off-balance sheet exposures by instruments (compared to NAV)</li> <li>• Outstanding amount of off-balance sheet exposures by counterparty type (compared to NAV)</li> </ul>	<ul style="list-style-type: none"> <li>• (Total borrowing + NAV)-to-NAV</li> <li>• Gross exposure-to-NAV</li> </ul>

	<ul style="list-style-type: none"> <li>• Outstanding amount of assets/liabilities by original maturity buckets</li> <li>• Ratio of “long-term” assets to total assets</li> <li>• Ratio of “short-term” liabilities to total assets (or liabilities)</li> <li>• Redemption features</li> </ul>	<p>markets (e.g. in how many days assets can be liquidated or % of portfolio that can be liquidated in certain period)</p> <ul style="list-style-type: none"> <li>• Liquidity profile of investor and financing liabilities (e.g. % of funds that can be locked away for certain period)</li> </ul>		
Economic function #2: Loan provision	<ul style="list-style-type: none"> <li>• Weighted-average remaining maturity of assets/liabilities</li> <li>• Weighted-average original maturity of assets/liabilities</li> <li>• Outstanding amount of assets/liabilities by remaining maturity buckets</li> <li>• Outstanding amount of assets/liabilities by original maturity buckets</li> <li>• Ratio of “long-term” assets to total assets</li> <li>• Ratio of “short-term” liabilities to total assets (or liabilities)</li> </ul>	<ul style="list-style-type: none"> <li>• Outstanding amount of “liquid” assets/liabilities (e.g. based on exchange-traded v OTC and/or bid-ask spread)</li> <li>• Ratio of liquid assets/liabilities to total assets/liabilities</li> <li>• Outstanding amount of liabilities with support from the parent company</li> </ul>	<ul style="list-style-type: none"> <li>• Outstanding amount of off-balance sheet exposures by instruments (compared to capital)</li> <li>• Outstanding amount of off-balance sheet exposures by counterparty type (compared to capital)</li> <li>• Risk-weighted assets amount of off-balance sheet exposures by instruments (compared to capital)</li> <li>• Risk-weighted assets amount of off-balance sheet exposures by counterparty type (compared to capital)</li> </ul>	<ul style="list-style-type: none"> <li>• Assets-to-Equity ratio</li> <li>• Liabilities-to-Equity ratio</li> <li>• Leverage associated with off-balance sheet activities (e.g. embedded or synthetic leverage in derivatives)</li> </ul>
Economic function #3:	• Weighted-average	• Outstanding amount of	• Outstanding amount of	• balance sheet leverage

Intermediation of market activities	<p>remaining maturity of assets/liabilities</p> <ul style="list-style-type: none"> <li>• Weighted-average original maturity of assets/liabilities</li> <li>• Outstanding amount of assets/liabilities by remaining maturity buckets</li> <li>• Outstanding amount of assets/liabilities by original maturity buckets</li> <li>• Ratio of “long-term” assets to total assets</li> <li>• Ratio of “short-term” liabilities to total assets (or liabilities)</li> </ul>	<p>“liquid” assets/liabilities (e.g. based on exchange-traded v OTC and/or bid-ask spread)</p> <ul style="list-style-type: none"> <li>• Ratio of liquid assets/liabilities to total assets/liabilities</li> <li>• Profile of portfolio liquidity in secondary markets (e.g. in how many days assets can be liquidated or % of portfolio that can be liquidated in certain period)</li> <li>• Liquidity profile of investor and financing liabilities (e.g. the ratio of funding through repos and securities lending)</li> <li>• Total collateral received that is permitted to be pledged/re-hypothecated v Total collateral received that is pledged/re-hypothecated</li> </ul>	<p>off-balance sheet exposures by instruments (compared to capital)</p> <ul style="list-style-type: none"> <li>• Outstanding amount of off-balance sheet exposures by counterparty type (compared to capital)</li> <li>• Risk-weighted assets amount of off-balance sheet exposures by instruments (compared to capital)</li> <li>• Risk-weighted assets amount of off-balance sheet exposures by counterparty type (compared to capital)</li> </ul>	<p>(e.g. assets-to-equity ratios, collateralised borrowing through repo markets)</p> <ul style="list-style-type: none"> <li>• leverage associated with off-balance sheet activities (e.g. embedded or synthetic leverage in derivatives)</li> </ul>
Economic function #4: Facilitation of credit creation	<ul style="list-style-type: none"> <li>• Weighted-average remaining maturity of assets/liabilities</li> <li>• Weighted-average original maturity of</li> </ul>	<ul style="list-style-type: none"> <li>• Outstanding amount of “liquid” assets/liabilities (e.g. based on exchange-traded v OTC and/or bid-ask spread)</li> </ul>	<ul style="list-style-type: none"> <li>• Outstanding amount of insurance/guarantees written by underlying asset types (compared to capital)</li> </ul>	<ul style="list-style-type: none"> <li>• balance sheet leverage (e.g. assets-to-equity ratios, collateralised borrowing through repo markets)</li> </ul>

	<p>assets/liabilities</p> <ul style="list-style-type: none"> <li>• Outstanding amount of assets/liabilities by remaining maturity buckets</li> <li>• Outstanding amount of assets/liabilities by original maturity buckets</li> <li>• Ratio of “long-term” assets to total assets</li> <li>• Ratio of “short-term” liabilities to total assets (or liabilities)</li> </ul>	<ul style="list-style-type: none"> <li>• Ratio of liquid assets/liabilities to total assets/liabilities</li> </ul>	<ul style="list-style-type: none"> <li>• Outstanding amount of insurance/guarantees written by underlying risks (compared to capital)</li> <li>• Risk-weighted assets amount of insurance/guarantees written by underlying asset types (compared to capital)</li> <li>• Risk-weighted assets amount of insurance/guarantees written by underlying risks (compared to capital)</li> </ul>	<ul style="list-style-type: none"> <li>• leverage associated with off-balance sheet activities (e.g. embedded or synthetic leverage in derivatives)</li> </ul>
<p>Economic function #5: Securitisation and funding of financial entities</p>	<ul style="list-style-type: none"> <li>• Weighted-average remaining maturity of assets/liabilities</li> <li>• Weighted-average original maturity of assets/liabilities</li> <li>• Outstanding amount of underlying assets/securities issued by remaining maturity buckets</li> <li>• Outstanding amount of underlying assets/securities issued</li> </ul>	<ul style="list-style-type: none"> <li>• Outstanding amount of “liquid” assets/liabilities (e.g. based on exchange-traded v OTC and/or bid-ask spread)</li> <li>• Ratio of liquid assets/liabilities to total assets/liabilities</li> </ul>	<ul style="list-style-type: none"> <li>• Outstanding amount of securitisation exposures retained or purchased by the originator (or sponsor) v total amounts of securitisation</li> <li>• Risk-weighted assets amount of securitisation exposures retained or purchased by the originator (or sponsor) v total amounts of securitisation (compared to capital)</li> </ul>	<ul style="list-style-type: none"> <li>• Weighted-average attachment point for the equity tranche</li> </ul>

	by original maturity buckets		<ul style="list-style-type: none"><li>• Outstanding amount of securitisation exposures by originator type</li><li>• Outstanding amount of securitisation exposures by exposure type</li><li>• Outstanding amount of liquidity facilities provided by the sponsor</li></ul>	
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