Strengthening the resilience of the banking sector (BCBS164)

Comments

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Quality and consistency of the capital base

1. Generally the changes in the capital framework are very efficient. However, there are a number of points where improvements could be made.

General thoughts

2. All the rules have been rewritten with the backdrop of the crisis, and clearly a lot of focus has been on making banks more secure. The flip side of this is that providers of capital are taking more risk, and that they will hence require a higher return, that will ultimately lead to a higher effective cost base and hence higher consumer prices.

3. This is an argument that has been put forward quite often, and not always in cases where it made sense. However, the cost of capital is a significant cost in banking, and it must be earned by the institution through the interest charged to its customers.

4. Also - and probably more importantly - it is of paramount importance that if significant cost are imposed on the regulated system that either *only* regulated entities have the right to operate in those areas, or that other participants in that space are regulated in a manner that imposes the same costs on them.

5. If regulators allow banks to become disintermediated by the capital markets - eg via money market funds and securitisations - then the shadow banking sector will again become a big a threat to financial stability as the regulated entities. It is important that the incentive to use the shadow banking system as opposed to the regulated banking system is not driven by differences in regulation, and this does not seem to be addressed by the current proposals.

6. When designing the capital instruments of a bank it is important to also keep in mind the needs and preferences of the investor base - there is no point of designing fancy fixed-income capital instruments if their risk-adjusted cost is higher than that of common equity. It seems that this aspect has been slightly lost in designing the new rules.

7. Fixed income instruments always have the psychological disadvantage of the capped upside: equity investors often seem to focus on the possible upside scenarios and ignore the downside risks, up to the point where they can't ignore them any longer, and then the stock tanks catastrophically. Fixed income investors on the other hand tend to focus on the downside much more, which arguably is a mindset that regulators want to encourage, and it is already for that reason that hybrid capital should be an important part of a bank's capital base.

8. For the acceptance of hybrid capital instruments it is important that a proper pecking order between the different classes of capital is maintained. This poses a particular challenge for going-concern capital, and care must be taken that (in particular in temporary crisis') hybrid capital is not structurally subordinated to equity, especially given that the regulators might have an incentive to side with the equity holders if those have the power to disrupt the restructuring process.

9. Structural subordination would most likely mean that investors would require equity like - or higher - returns, which in the absence of tax incentives would all but destroy the case for hybrid capital.

Definition of Capital

10. The definition of Core Capital seems to be in line with the market view in the crisis. Arguably there could be some more leeway given to banks to use a differentiated set of core capital instruments that might attract slightly different investor bases.

11. For example, it is not clear why a bank could not have different share classes with different claims in wind-up (as long as they all are junior to all non-core capital instruments), and with different dividend rights (as long as they are all fully discretionary and to be paid out of distributable reserves, but maybe with rules such that "Class B obtains 50% more than Class A").

12. This is particularly important in the context of a recapitalization under distress. The crisis has shown that one recapitalisation instrument of choice are preferred shares, and for good reasons: the new shareholders will often not have the time to perform a full due diligence when they make their investment decision, and therefore they want to make sure that if things turn out worse than expected, then a pre-recapitalization shareholders are on the hook first.

13. Therefore, the requirement of only having one class of core capital could actually be considered a *feature that hinders recapitalization* and should therefore be abolished or at least relaxed.

14. Also the reasoning behind the "directly issued and paid up" requirement is not consistent with banks being able to obtain synthetic capital on the asset side, eg through credit default swaps, assets swaps, guarantees, or other forms of "asset insurance". At the very least for institutions that have the backing of ultra-high-quality parties (eg some sovereigns), not fully paid up forms of capital could be recognized, especially in the lower tiers.

15. Generally the definition of additional Tier 1 capital and Tier 2 capital is a sensible one. It might be a touch on the stringent side though, especially there might

be a risk of it structural subordination to equity[1]. Ultimately it is important to create a security that satisfies the regulatory need for quality of capital, but that at the same time can also be sold in the market, and it remains to be seen if - and at what prices - investors are willing to take on those additional risks.

Contingent and Convertible Capital

16. Contingent and convertible (at the request of the issuer) capital suffers from one important drawback: everything that behaves like equity on the downside should require equity-like returns on the upside. However, on the upside, the instrument is a fixed income instrument, and - unless there are tax benefits - it is unlikely that investors and issuers will find a level at which both are comfortable.

17. What could work better in practice is capital that is not triggered by idiosyncratic events (eg a bank making bad investment decisions, suffering a fraud, or going through a period of bad underwriting) but only by systematic events (eg all bank CDS spreads widening over x bp for a number of months, or default rates in a certain region or country breaking a level of y).

18. A kind of idiosyncratic capital that could work better in practice would be related to idiosyncratic risks that investors can not generally take independently. For example, a bank might be operating in a country (typically an emerging markets country) where very little competitors have equity or debt outstanding and that therefore does not provide much opportunity for investors. In this case contingent capital might be tight for example to loan default rates in this country. It could also be tied to a certain region or customer segment[2].

No-enhancement and no-own-interest rules

19. The rules that no related entity can economically shield providers of capital from all or part of the risk - be it synthetically through guarantees or other forms of enhancement, direct ownership, or asset-specific non-recourse financing - is very important.

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[1] The issue is that equity holders in theory do not care about dividend distributions in that sooner or later they should get hold of that saved money anyway. This contrasts with a non-cumulative coupon on a hybrid: if it is not paid (and there is no in-lieu payment in form of equity) then it is forever lost for the holder of the security. Therefore every coupon cancellation (or permanent write-down for that matter) without in-lieu distribution of equity is a value transfer from hybrid holders to shareholders which violates the pecking order principle that hybrid holders should only be affected once equity holders are fully wiped out.

[2] It should be noted though that a such instrument already exists - securitisations are exactly of this type. To make on impact on capital though the lower rated (ie B-BB and below) tranches would have to be distributed, which is usually not the case.

20. I should be noted though that the rules on provision of financing might prove to be very complicated in practice to avoid abuse, as on the one hand it is not workable that banks can't lend money to someone who owns their shares (eg a mortgage loan extended to a retail client who also owns a share-portfolio), but on the other hand pure legal-form rules might not be wide enough to capture all cases, especially if banks are trying to circumvent them.

Features-that-hinder-recap rule

21. Arguably the most important *feature-that-hinders-recap* are the voting and veto rights of common shareholders, as it is often in their best interest to take a gamble as to whether the institution will survive on its own (or because of being bailed out). Financial stability is likely not to be a factor in their decision - if anything it is a lever they can use to extract concessions.

22. Therefore it is crucial for the national authorities to be able to force banks to re-capitalise regardless of the wishes of the common shareholders. The only safe-guard should be a *pay-up-or-shut-up* rule allowing existing shareholders right of first refusal for any deal imposed, but further redress should be severely limited so that regulators don't face lengthy court battles after the crisis and might therefore be disincentivised to act appropriately.

23. On the other hand, some of the features-that-hinder-recap can be useful, to the point that without them recapitalisation might not happen. Recapitalisation decision are usually taken with utmost urgency, and hence with limited due diligence. Therefore without safeguard that the price can be adjusted ex-post should material facts arise from the post-deal due diligence, many private investors might not be willing or able to take the risk.

24. Therefore a clear distinction should be made between features that allow to force greater losses onto the pre-recapitalisation stakeholders (including more senior one's if appropriate) which should be allowed, and those that poison-pill-style make it more difficult to raise new capital which should be restricted.

25. This subject is rather complex however and it is clear that it would benefit from some additional work.

Minority interest

26. For the very reasons mentioned in the report - ie that minority capital might not be available to counter losses outside the specific subsidiary - it is clear that this particular issue needs to be addressed, in particular given that there are a number of structures that allow to unduly boost capital figures based on minority interest capital contributions.

27. On the other hand, there are a number of genuine corporate situations where minority capital is important - most notably subsidiaries in emerging markets, where a local partner takes part - and in those cases including the full RWA's of the subsidiary but not its full capital base leads to a mismatch. This mismatch can be substantial - in the order of billions of euros of capital - and it would be unfortunate were sensible ventures foregone (or structured in an insensible way) in order to circumvent regulatory asymmetries.

28. The most efficient solution might be that *a priori* minority interest is not part of the core capital base, but that a group can apply to its regulator(s) that on a case-by-case basis certain minority interest components, and most notably those where the minority investor takes a sufficient proportion of the risk, can be counted into core capital.

29. Alternatively - especially if the regulator feels that the local entities are overcapitalized as compared to the group, making the minority interest capital less valuable - the regulator could allow for partial consolidation, ie that only the pro-rata share of RWA's corresponding to the Group interest is considered in the Group regulatory accounts.

Unrealized gains or losses

30. The regulatory and accounting definitions of capital or not fully compatible: accountants have a more symmetric view and are more worried about *overestimating* the capital base than regulators. Because of their stability mandate, regulators want to make sure that they *never underestimating* the available capital that is available to cover losses, but they are rather indifferent to overestimating it.

31. Especially mark-to-market accounting - and the capital impact thereof - is an extremely thorny issue for bank (loan) portfolios, given that for the vast majority of them no market exists, at least not in the depth needed to make a real difference when managing a balance sheet. In the light of the above, accountants and regulators can have a different view on how banks (loan) books should be marked, and hence prudential filters reconciling the two views are essential.

32. No approach is ideal, but arguably the best one would be to have standard loan assets held at their accrual accounting value (ie not marked-to-market) for regulatory capital purposes. However, there would be a Pillar 2 modification in that for large portfolios of (potential) problem assets write-downs for regulatory purposes would have to happen before impairment charges are taken from an accounting point of view, and taking into consideration the already higher risk-weights those assets might experience due to procyclicality in the capital factors.

33. Practically some regulator (or the BIS) could issue a list of problem assets classes (eg subprime ABS, commercial real estate) at any given point in time, and the banks would be required to explain - and potentially defend - the valuation at which those assets are held on their balance sheets.

Adjustment for own holdings of shares

34. Whilst clearly an issue in principle - and arguably for a few banks also in practice - the burden imposed by the rule regarding the adjustment of capital for holdings of own shares might be outweigh the benefits, especially for banks with large trading books.

35. Moreover, even the proposed rules might not be far-reaching enough to catch all potential cases. For example, banks could have written puts on their own shares (or an index for that matter). Even though they would currently not own their own shares, they would own them at the very moment their share price has declined, and even a *delta*[3]*-view* would not reveal this particular issue.

36. Some principles-based rules together with a threshold might be more sensible in practice, for example if banks can ensure that even in a stressed scenario they do not hold economic interest in more than x% of their own shares then they do not have to worry about it.

Goodwill and DTA rules

37. As lined out in the proposals, neither Goodwill, nor DTA's that could disappear on the downside should form part of a bank's capital base. Other DTA's should be riskweighted using the appropriate government riskweight.

38. In fact, arguably the proposals should be made somewhat more stringent, in that *gross DTA's* as opposed to *net DTA's* should be deducted, unless it can be substantiated that deferred tax liabilities used for netting will disappear at the same time as the DTA's, which will not necessarily be the case if they are in different entities or even in different jurisdictions.

Fair-valuation-of-own-liabilities rule

39. Fair value adjustments due to an idiosyncratic change in creditworthiness should indeed not form part of the regulatory capital base. Capital is a going-concern concept, and under going concern assumptions liabilities will have to be repaid in full.

40. The only situation where this does not hold true is when a firm engages in liability management exercises, ie repurchases their own liabilities at a value below

[3] "Delta" in this view as defined as a sensitivity or a hedge ratio, ie the position in the underlying alone that closest matches the (local) risk profile of the derivative

par. Once a such exercise is executed the gain (after tax, where relevant) should be recognized in capital immediately (and not only after the accounts have been audited, as it is currently often the case, as this can lead to major delays at an important point in time).

41. However, due consideration should be given whether fair value changes in own liabilities *due to systemic effects* should be recognized in capital. The reason is the following: if a bank holds an asset portfolio that is match funded (typically a *liquidity portfolio,* eg a portfolio of 3y central bank eligible bonds, match-funded with 3y issuance) then changes in overall spread levels should not lead to a capital impact.

42. In particular, allowing capital relief in those match-funding situations would increase the incentive for banks to in fact match fund portfolios. Under the proposed rules it is - from a capital point of view - irrelevant whether a portfolio is match funded, or funded overnight.

50:50 deductions rule

43. This rule should be revisited, as the 1,250% riskweight is intrinsically related to an 8% capital requirement. No position should attract a marginal capital requirement that is higher than the notional exposure, and this happens here if the (target- or actual) capital coefficients are larger than 8%.

44. Instead, those items should be deducted in a predefined proportion from the respective constituents of capital before computing the capital ratios, as it is the case today.

45. The ratio should not be 50:50 however - this is in fact a significant arbitrage opportunity under the current framework where eg equity pieces of securitisations, or certain subsidiaries, can be capitalized with 50% Tier 2 capital, which is inappropriate given the amount of double leverage this allows to create. So a full deduction from Core capital - or something like 80% Core and 20% Tier 2 - might make more sense in practice.

Focus on going-concern core capital and simplification of capital instruments

46. Whilst the focus on going-concern and in particular core capital makes sense, it might have gone slightly too far. Hybrid capital has a number of benefits: (1) the fixed income nature of it attracts a different investor base, (2) its trading levels

can give important warnings to regulators, especially as to what downside risks are concerned[4], and last but not least (3) it has tax advantages.

47. Regulators have found in the crisis that Tier 2 capital had little value to support the banks. This is to some extent true, but it is intrinsically related to another issue, which is that there is currently no good means of resolving failing banks without jeopardizing the financial stability of the overall system, and therefore gone-concern capital is of little use. Even in the crisis this was not entirely true though, as banks created large amounts of core capital from gone-concern securities via liability management transactions.

48. Assuming there will be an appropriate resolution procedure in place in the future that will allow regulators to force losses on holders of gone-concern securities without threatening financial stability, then this type of capital will become significantly more valuable from a regulatory point of view. Additionally, if a such threat is in place, then the ability of those capital instruments to absorb going-concern losses (via liability management) will be even greater.

49. For example, the regulators could order banks that they feel can not be resolved and wound down appropriately (eg because of a complex corporate structure, and/or because the different national entities are not self sufficient) to replace gone concern capital (which is of little use in that case) with going-concern capital. This would at the same time increase the resilience of those banks, and provide an incentive to not be *too-big-too-fail*.

50. The simplifications of the definitions of capital structure make a lot of sense. In particular Lower Tier 2 capital and Tier 3 capital have not proved to be particularly useful or successful, and their removal is only a logical consequence of this.

Capital leverage rules

51. Whether or not capital leverage rules or explicit targets for each capital component are the way to go depends to some extent on the accurateness of the risk-weighting process: in an environment where all banks have to hold say 7% of RWA's as Tier 1 and 3% of RWA's as Tier 2 those rules work well.

52. Care must be taken though that when institutions are forced to run very high capital ratios because the RWA calculation is considered to be flawed, that the increase in target capital levels is applied to all components of capital, thereby in effect introducing the capital leverage rules through the backdoor.

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[4] Unlike equity holders, fixed income investors have only limited upside, but they bear the full risk on the downside. Therefore whilst equity holders might be willing to accept large downside risks in exchange for a large upside potential, fixed income investors will (like regulators) be mainly concerned with the downside.

53. However, both system are arguably very similar in any case, and explicit limits on the key components of capital as opposed to overall limits and leverage rules are certainly easier to understand and communicate.

Risk coverage of capital framework

Capital and operational requirements for securitisations

54. Determining appropriate capital requirement for securitisations and other structured products is a difficult topic, and arguably there currently are no economic capital models available that could truthfully claim to come up with reasonable (and in particular non-arbitrageable) numbers for all structured products seen in the market.

55. For fully distributed deals - ie deals where an actual asset portfolio is tranched up and all the pieces are sold off to investors - this is less of a problem, assuming that none of the tranches leave the regulated system: every reasonable capital model for tranches will ensure that the sum of capital requirements of all tranches is at least as big as the capital requirement of the underlying pool, and hence in aggregate adequate capital requirements are maintained.

56. It should be noted though that this is not the case in the ratings-based approach used in the Basel 2 securitisation framework where the aggregate capital requirement of all tranches can be significantly lower than that of the underlying pool, giving rise to regulatory arbitrage [5].

57. If some tranches are allowed to leave the regulated financial system this however creates an issue, as naturally it tend to be the tranches that are *capital-inefficient* that are sold off, meaning that those remaining in the system are *capital-efficient*. This is a polite way of saying that the regulated system will be undercapitalized as far as those assets are concerned.

58. This becomes even more of an issue if not all tranches are accounted for, and financial engineering can be used to tailor tranches for maximum capital efficiency. This is the case for CSO's, ie tranched credit products written on synthetic (ie CDS') underlyings and managed in a trading book.

59. When a trading house sells CSO tranches to customers, then the regulated customers typically hold capital against those tranches according to the securitisation framework, whilst the trading house holds capital against the residual risk in a trading book framework. Transactions sold into the regulated sector are usually structured in a *capital efficient* manner, meaning that the overall capital

[5] In the Basel 2 supervisory formula however this relationship is maintained, and in this light the decision to change the priority of SF and RBA approaches in the pen-ultimate revision to the Basel 2 framework seems questionable.

requirement against the risk could be vastly underestimated, potentially leading to a significant undercapitalization of the financial system as far as those products are concerned.

60. The fundamental issue with the current framework is that capital is tied to rating, and capital and rating are at best loosely connected, and very little at all if market participants are working on arbitraging the system. In fact, with a little financial engineering it is easy to design products where capital requirements based on ratings are completely off[6].

61. There should be a distinction between fully distributed and financially engineered deals. For the former, current models should in aggregate deliver reasonably good results, and as long as regulators are confident that all of the risk is accounted for somewhere in the regulated system, financial stability should not be threatened assuming the riskweights on the underlying assets are correct.

62. For financially engineered deals (ie essentially everything that is managed in a trading book), and deals where risk is seen to be leaving the regulated system, significantly more strict rules should apply: here it should be the responsibility of the regulated investors to show that the capital requirements they apply to those assets are economically adequate, without regard to the published regulatory capital requirements.

63. An additional method would be to impose a rating cap - or a minimum capital requirement - on new products and asset classes. So unless a such product has weathered a full credit cycle, its risk weight would be at least say 75%, regardless of the risk assessment provided by the theoretical models used in the design.

Capital requirements for resecuritisations

64. It was certainly necessary to increase the riskweight for resecuritisations, and hence the changes are a step in the right direction. There is also an argument that resecuritisations might not reappear, and that putting too high a capital requirement onto them at the moment might be counterproductive as it push banks into technical insolvency.

65. Clearly in the future riskweights for resecuritisations need to become substantially higher. Details need to be revisited though based on the structures actually

6 Credit ratings for structured finance assets represent either probabilities of default ("PD's") or expected losses. Capital requirements on the other hand are the expected loss contribution in a stressed scenario. To give an example: high correlations to the market ("betas") and low recovery rates both increase capital requirement, but do not influence (PD based) ratings. Therefore it should come as no surprise that many of the capital-optimized structures seen in the market (including the now infamous CDO of ABS') exhibit a high beta, and low recovery rates.

employed given that sensitivity of the capital assumptions to the rating criteria the will be eventually used for those kinds of structures.

66. However, back-of-the-envelope analysis suggests that even the most senior re-securitisation tranches exhibit significant mezzanine characteristics and should have hence capital requirements of at least 10-20%, if not more, which would suggest riskweights significantly beyond 100%.

67. Thin resecuritisation tranches are almost certainly "sudden death" - ie once the first dollar is lost the whole tranche is lost - and they exhibit a significant model risk as they are highly sensitive to largely unobservable correlation assumptions, and hence capital requirements should be at least 30%, giving a 400%+ risk-weight.

68. It is important to stress this last point: resecuritisations exhibit a complexity that can not be adequately captured in financial models. Their risk is highly dependent on the correlation (co-movement) structure of the underlying assets, and it is fundamentally impossible to predict those with a precision anywhere near the level that would be necessary to get meaningful risk numbers due to ever changing nature of the markets.

Central counterparties

69. Whilst there are benefits of central-counterparty-clearing for many derivatives, there are also risks involved, the key risk being that the new mega-clearing-houses created in the wake of this will be too interconnected to fail.

70. Moreover, it is not only the risk of *actual failure* that is an issue, but also the risk of *anticipated* or *feared failure*: it might only take a small proportion of counterparties delaying to post their margin after a significant market movement (eg because they are afraid of the credit standing of the central counterparty, or because they simply don't have the cash, which is in particular a risk for corporate treasuries) for the exchange to lack the resources to post the margins on the other side, therefore creating a situation of technical default.

71. Under this angle, a zero percent riskweight does not seem appropriate: a clearing house should be recognized as a counterparty as any other. All the usual counterparty risk assessments should be apply, including wrong-way risk, which can be particularly important in case of a clearing house.

72. Alternatively there should be a very clear message that the clearing houses are guaranteed by a (group of) sovereign(s), and that they can get as much liquidity as they need from the central bank(s). In this case - and arguably only in this case - a zero percent riskweight could be justified.

Riskweight of financial institutions

73. The key issue determining the riskweight financial institutions (and in particular large, too-big-too-fail-type financial institutions) is that there is not enough default data to determine PD's, let alone LGD's. Moreover, the change of the regulatory regime might impact those risk parameters considerably, and any historical data in this respect is of questionable relevance.

74. A key practical issue with the riskweight functions is that they are very steep in terms of maturity. Even under the current rules a 5y bond of a AA rated institution could attract a 50% riskweight. Under the new proposal those riskweights could go up to 70-80%, which would be prohibitively expensive for other banks to buy.

75. Banks buying each others long term debt securities is good for the liquidity position of the overall banking system[7], and banks should also be recycling excess liquidity from differing deposit to loan ratios in the long term interbank market[8]. The new, higher capital requirements for interbank lending will reduce this interbank liquidity transfer, especially in the long maturities, thereby making the system less efficient from a liquidity point of view.

76. One practical way to address this could be to flatten the maturity adjustment curve for financial institutions as to limit the riskweight for long term bank debt. Reasonable caps might be around 40% for AA banks, and 60% for A banks.

Reliance on external ratings

77. The key reason why ratings have been invented and have been successful in the past is that they allow the pooling of expertise: For investment grade credit (a) a large number of investments is needed to obtain a diversified portfolio and (b) the returns offered on those assets are small. Therefore it is hardly economical for every investor to run its own independent assessment on every security, and especially not for smaller investors.

78. Especially in a world where banks are meant to become rather smaller than larger, there should be a certain balance between the ability to outsource credit

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7 By issuing long term bonds banks can create a liquidity buffer for themselves. Banks buying them on the other hand can liquidate those assets quickly if needed, assuming that they are eligible for refinancing at a central bank. So overall banks buying each other's bonds provides liquidity to the system. Given that the banks are still assuming each others credit risk (assuming neither of them is too-big-to-fail), the opportunity to abuse this system is limited.

8 Some banks will have strong deposit taking franchises, but less demand for loans, whilst other banks will have strong lending operations but not that much means of obtaining deposits. Also some countries will have excess savings, whilst others will have excess loan demand. Long term interbank lending is the most effective means of addressing those imbalances.

assessment and the risks that this generates, and the costs imposed through the requirement of independently checking every rating. This is exacerbated by the requirement to run increasingly large liquidity portfolios which are exactly of that kind where some outsourcing of the risk assessment process is crucial for cost/benefit reasons.

79. A good compromise might be to the requirement for the investors to do their due diligence on the rating process rather than on every rated asset. This means they would effectively independently validate the rating methodology for each asset classes in which they invest in, and this would imply that the rating agencies would need to become much more transparent about their assessment processes which would be a plus in itself.

Leverage ratio

General comments

80. The leverage ratio is a very crude measure for capital adequacy. This in itself is not a bad thing, but it makes it susceptible to distortion from financial engineering, and imposing it in an inappropriate way might spawn a whole cottage industry advising in matters of *balance sheet optimization*. Moreover, this measure is prone to unintended consequences, and arguably it was at the core of the current crisis[9].

Inclusion of the shadow banking system

81. They key point when designing the measure is that it does what it should do, ie that it counters the excessive build up of leverage in the financial system. In order for this to work it is not only important that bank's off balance sheet activities are adequately represented, but also that there is no incentive to simply shift credit provision to the shadow banking sector during the build-up of a bubble. If anything, the crisis has shown that the shadow banking system is contracting credit supply even faster than the regular banking system at the onset of the crisis, so bringing it under the regulatory umbrella is of paramount importance.

82. In this context the shadow banking system is defined as all those financial intermediaries who invest in credit assets, and whose liability side is significantly shorter than their (contractual / hold-to-maturity) asset side.

[9]US banks have been subject to a leverage ratio for a long time, and to circumvent it the *conduits* have been designed, which allowed banks to keep the economic risks and rewards of certain assets, whilst shifting them off balance sheet, thereby removing them from the remit of the leverage ratio. However, for this construct to work the banks needed to take on a significant liquidity risk, and arguably this immense build up of liquidity risk was a key contributor to the crisis.

83. Clearly in this category are *conduits* and *SIVs*. However, the former are likely to be captured within the sponsoring bank, whilst the latter have all but disappeared in the crisis, so either of those structures might not pose much of a problem in the (near) future.

84. Also in this category are a number of mutual funds. Especially *money market funds* are shadow banks[10] and arguably bank-like regulations should apply to them. If money market funds stop buying securitisations overnight, or even worse, if they are trying to sell them into a falling market, then this is the shadow-equivalent of banks refusing to lend, and as detrimental to the economy.

85. Also mutual funds with a longer investment horizon (and even hedge funds) can be in the *shadow banking* category if they allow their investors to withdraw funds quicker than their assets roll off, and the financial stability implications of this need to be carefully considered.

86. One solution might be that regulators can order systemically important investment vehicles to erect *gates*, ie that the regulators could forbid those entities to distribute cash to their investors for a certain period of time. It should be noted that this does not necessarily mean that investors can't convert their fund investment into cash if they really need to, as they could still sell their shares in the fund, albeit most likely only with a large discount.

Risk sensitivity of the leverage ratio

87. To keep the leverage ratio measure relevant in practice, a minimum amount of risk sensitivity should be maintained. For example, not recognizing collateral when computing it is too harsh: There is a fundamental difference between a $500b repo book and a $500b leveraged loan book, and any meaningful leverage measure must recognize this to some extent.

88. Failure to do so will most likely either lead to a shift of certain l*everage-ratio-inefficient* businesses into the shadow banking system, or those businesses will be significantly curtailed as it will be impossible for them to achieve appropriate capital-requirement-adjusted returns. Neither of the two alternatives is a desirable outcome.

89. It would be beneficial to use a simple system of appropriate (non-zero) *credit conversion factors* to compute the asset component of the leverage ratio. For example, high quality government bonds might have a 10-20% conversion fac-

[10] They take retail and corporate deposits to which they promise instant access and then they indirectly lend parts of the money out to homeowners and corporate borrowers by investing in RMBS' and CDO's as well as unsecured bank debt

tor, as would have appropriately haircut repos on high quality assets (on the gross amount). Regular loans would by definition have a 100% conversion factor, leveraged loans might have 150-200%, and equity exposures might be anywhere between 600% and deduction.

90. Disclosure requirements should be at least such that the weighted and unweighted amount per slotting-category is given, so if observers prefer to use other measures (eg a uniform 100% conversion factor) then this number would be easily obtainable.

Treatment of specific balance sheet items

High quality liquid assets

91. Highly liquid assets should be included in the leverage ratio. They should not be included at a credit conversion factor of 100% though, but rather at something between 10 and 20%. However, even the most liquid and high quality assets should never have a conversion factor of zero.

Repurchase agreements etc

92. Similar to highly liquid assets, the best approach for repo-style transactions would be to use a credit conversion factor on the gross amounts. The factor would be determined using a slotting approach depending on the term of the transaction, the characteristics of the underlying asset, and the haircut. For the most common transactions the factors might be between 10 and 50%, except for repos on highly liquid, short dated government bonds, with daily margining agreements in place, where a factor as low as 5% might be appropriate.

Securitisations

93. The proposed treatment of securitisations is inconsistent with the treatment of other asset classes, eg repo, and securities financing. It is virtually certain that for any asset where the originator has an ongoing relationship with the borrower the risk will be at least as high than that of a government repo with daily margining. Therefore it is not justifiable that $1b of repo should contribute $1b to the asset component of the leverage ratio whilst a bank engaging in a clever securitisation structure of $1b of assets might only have a contribution of $10-50m depending on the size of the retained risk.

94. A leverage ratio based on accounting derecognition could also be pro-cyclical in the extreme: one can easily imagine a situation where an originator derecognised hundreds of billions of assets using a clever structure. At one point (probably in a crisis) the accountants might decide to put the assets back onto the originators balance sheet (maybe because of originator support), thereby

seriously threatening the originator's capital adequacy at the worst possible point in time.

95. In conclusion, securitized assets should contribute to the leverage ratio using a credit conversion factor on the gross amount. For the types of securitisation most common in Europe, where the originator retains the majority of the risks and where the primary goal is funding, the conversion factor should be 100%, ie the assets are treated as if they had not been securitised.

96. Only in cases where the vast majority of the risks is transferred, a conversion factor of below 100% would be envisageable, which might then be in the area of 50% or - in exceptional cases - 20%, applied to the gross amount of assets securitised.

Derivatives other than credit derivatives

97. Given the complexity of derivative trading operations it is difficult to come up with a one-size-fits-all means of including large derivatives books into a leverage ratio framework.

98. Ignoring *potential exposures* is not conservative enough for a measure that is meant to reassure the stakeholders of an institution that it is well capitalized in a potential downside scenario. Therefore *potential exposure* must be the basis for computing the contribution of derivatives to the leverage ratio. It is also sensible to not allow the *potential exposures* being calculated using an advanced internal approach, given the lack of transparency that this would entail.

99. It remains to be seen from the impact assessment studies what numbers the proposed *current exposure method* would yield on actual derivatives portfolios, and a sensible measure that work across asset classes and institutions needs to be designed thereafter.

Credit derivatives

100. Treatment of credit derivatives is somewhat harsh, especially for institutions that are market makers in the credit derivatives market, or who intermediate them for their end customers.

101. If the entire gross-written-exposure of a credit derivatives book goes on the asset side of the ratio without any adjustment for the purchased protection, than it is likely that credit derivatives market making can not be executed in institutions that are subject to a leverage ratio.

102. One solution could be to allow for netting provided that both legs are settled with a central counterparty. To account for the realities of the market it is also important that the trades do not need to be entirely matching and opposite. For

example, market makers often write protection at a non-standard date, and hedge it with a contract on the standard dates. At the very least, it should always be possible to allow for a superior (eg a longer dated) hedge to be recognized subject to also recognizing the counterparty credit risk appropriately.

103. Another solution might be to distinguish between *customer business* and *inter-dealer business* and only include the gross customer position as well as the net overall position in the computation of the leverage ratio[11].

104. However, even with those adjustments it might be very difficult to run a credit derivatives market making operation under those rules. The realities of derivatives risk management are that risks are closed out "on average", but that basis risks usually remain. In same cases those might be relevant (eg if the risk is a cash vs derivatives basis, and the aggregate exposure is very big) but often this basis is - and should be - acceptable within the environment of a trading operation.

Off balance sheet items

105. Including off-balance sheet credit items is of paramount importance for any leverage ratio to work, otherwise it would be too easy to arbitrage the system. Therefore credit lines, guarantees and as well as anything that is economically similar to the aforementioned instruments should be included at a 100% conversion factor.

[11] The notional of open interest in the interdealer market often looks bigger than it actually is because of *near-perfect hedging* where trades are hedged under slightly different terms (payment dates, coupon levels, documentation) and that therefore can not be easily netted. Arguably those positions do create a risk of contagion though, and possibly the gross interdealer notional should contribute, albeit with a lesser credit conversion factor, to create an incentive for trioptima-style circular closeout of inter-dealer positions.