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Warding Off Financial Market Failure:

How to Avoid Squeezed Margins and Bad Haircuts

David Longworth

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In this issue...

New regulations for margin requirements and haircuts are needed to dampen financial booms and busts.

The Study in Brief

The Author of This Issue

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The onset of a global financial crisis gave urgency to being specific about a regulatory framework that addresses not only the risks affecting individual financial institutions, but the financial system as a whole.

Key elements in such a framework are capital and leverage requirements, liquidity requirements, rules on margins and haircuts when financial instruments are offered as collateral, and loan-to-value ratios and other mortgage restrictions.

Work on capital and liquidity regulation has been a priority in 2010, but it is time to deal with other areas before reform momentum is lost. In particular, new regulations are needed on haircuts and margins, which provide collateral protection that covers credit and market risks in repo, securities lending and over-the-counter derivatives transactions.

A market failure in the setting of margin requirements and haircuts led to an exacerbation of both the financial boom of the past decade and the financial bust, whose aftershocks are felt today. To deal with these failures, the Committee on the Global Financial System at the Bank for International Settlements published a report on March 2010, under the chairmanship of the author of this *Backgrounder.*

This *Backgrounder* discusses the Committee's recommendations, notes how they relate to market failures and can complement related policies, argues that they should be adopted in their strongest form internationally, including by Canada, and discusses how to do so. The recommendations emphasize "through-the-cycle" haircuts and initial margins, the potential use of add-ons to haircuts and margins by macroprudential authorities, and market practices that are less procyclical than they were before and during the crisis.

The financial crisis of 2007/09 was related to poor risk management by financial institutions with regard to three financial products: US mortgages (especially the origination and holding of sub-prime mortgages), securitized products based on those mortgages and derivative products based on those securitized products. The related credit risk taken on by many financial institutions was far greater than they had realized.

In some cases, the amount of capital that they held was insufficient for that risk. Uncertainty about the degree of credit risk taken on by many institutions led to increased funding liquidity risk for most institutions.

As the financial crisis worsened the macroeconomic situation, housing price risk rose in a number of countries; as did collateral risk for institutions holding mortgages in those countries. One can tell much of the story of the financial crisis by focusing on these risks – housing price/collateral risk, credit risk and funding liquidity risk – and the response of banks, central banks and governments to the crystallization of these risks.[1] (Table 1 provides definitions of risks.)

While these risks played a large role in the financial crisis and, therefore, are appropriately the focus of current international financial regulatory reforms, other risks also played a significant part. Indeed, the crystallization of market liquidity risk – along with the associated market risk on financial instruments – was an important factor in the propagation of the financial crisis. The terms and conditions for financing securities and offsetting market risks in over-the-counter (OTC) derivatives markets had eased significantly in the boom period between 2003 and early 2007, but they worsened substantially in the latter part of 2007 and again in 2008.

Haircuts, which provide the extra collateral protection to cover credit and market risks in repo transactions, had been squeezed in the boom period and then rose, dramatically in some cases, during the crisis. Margin requirements on OTC derivatives, which lead to collateral being posted to cover credit and market risks (both initially and as the value of the contract changes), had eased in the boom before tightening in the bust.

As well, the dynamics of certain requirements on OTC derivative contracts, such as triggers related to credit ratings, amplified price movements.[2] When securities can no longer be readily financed or hedged, lower market liquidity results.[3] This procyclical behaviour in the downturn led to an amplification and exacerbation of the financial cycle.

Margin Spirals

Several authors, including Brunnermeier and Pederson (2009), have identified what they

The author would like to thank Steve Ferris, Charles Freedman, Paul Jenkins, former colleagues and several referees for useful comments and discussions. The author is a former Deputy Governor of the Bank of Canada. He chaired the international Study Group of the Committee of the Global Financial System (CGFS) that, in March 2010, released the CGFS report discussed extensively in this *Backgrounder*. The views expressed here do not necessarily reflect the views of the study group or of the CGFS.

1 A complete discussion of the financial crisis would have to include a number of other factors, including the unregulated shadow banking system, the heavy reliance on short-term wholesale funding markets and the opaqueness of certain financial products and exposures.

2 Large margin calls can affect market dynamics. See the examples from the financial crisis given in Table 1 of CGFS 2010(a).

3 Financial sector firms have been examining how to improve their risk management practices in this broad area. See, for example, IIF (2008, 2009), ISDA (2010) and ISDA et al. (2010).

Table 1: Definitions of Risks

Risk	Definition
Collateral Risk	Risk associated with the sustainability of the value of a real or financial asset pledged as collateral for a loan or other financial products.
Credit Risk	Risk of loss due to the non-payment of a loan or a financial product.
Funding Liquidity Risk	Risk that a financial institution would not have sufficient funds to make required payments.
Housing Price Risk	Risk of changes in the price of housing.
Market Liquidity Risk	Risk that a specific financial instrument cannot be sold or offset without suffering a loss because of poor market depth.
Market Risk	Risk of changes in mark-to-market values associated with portfolios of financial instruments.

Source: Author.

call a "margin spiral." In this downward spiral, lower market liquidity leads to greater market volatility – and thus to higher margin requirements and larger haircuts – as well as to market losses on existing positions. This, in turn, results in funding problems for banks and other dealers, which leads to less market making.[4] The downward spiral continues (Figure 1).

In boom times, there can be an upward spiral in which higher market liquidity leads to lower volatility – and thus to easier margin requirements and lower haircuts, as well as to market gains on existing positions. This improves the funding ability of banks and dealers and results in more market making, with the upward spiral continuing.

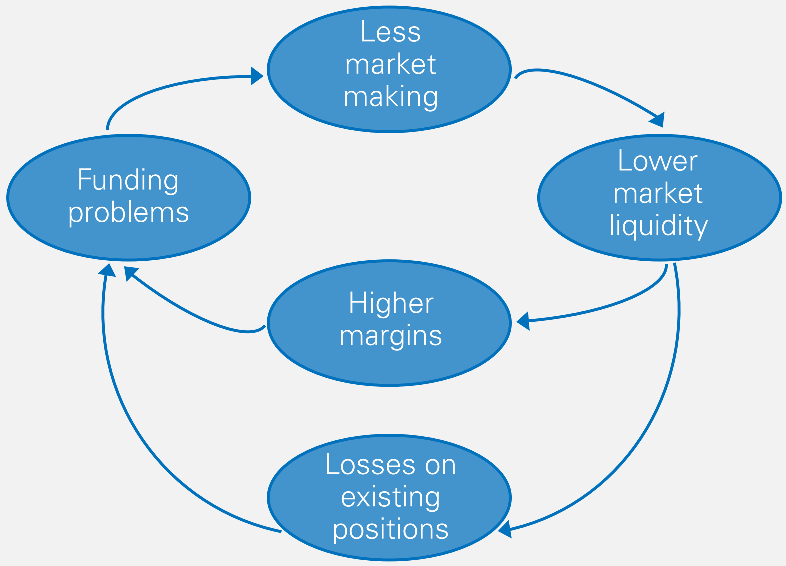
This behaviour of margin requirements and haircuts is referred to as "procyclical" because it follows the overall financial cycle: in other words, there is an easing of margin and haircut terms and conditions when most other financial conditions are improving and a tightening when conditions are worsening.

The CGFS Study and Report

In 2008, the Committee on the Global Financial System (CGFS), a body of senior

4 There is a significant body of related research on margin spirals and market makers. Two recent academic studies suggest that the degree to which financial intermediaries or investors are constrained by the amount of capital they hold matters for the effect on asset prices (Coughenour and Saad 2004, and Hameed et al. 2009). See also the work of Gârleanu and Pederson (2009) on how changes in haircuts may affect financial market prices. Adrian and Shin (2008) present a model in which "increased risk reduces the debt capacity as a whole, giving rise to amplified de-leveraging by institutions through the chain of repo transactions." For a discussion of the procyclical movements of some margin requirements in Canada, see Kamhi (2009).

Figure 1: Margin Spiral



Source: Adapted from Brunnermeier and Pederson (2009) and presentations by Bank of Canada Governor Mark Carney and Former Deputy Governor David Longworth, the author.

central bank officials from around the globe that reports to the central bank governors who meet at the Bank for International Settlements, undertook a study to better understand the nature of the procyclicality in financial systems that arose from leverage and valuation effects. Their study of this issue was published in CGFS (2009). Out of this study, it became apparent that further examination of the role of margin requirements and haircuts in procyclicality was necessary. Another group was established under my chairmanship to "undertake a fact-finding study on margining practices, to analyse their impact on the financial system through the cycle, and to explore and analyse the desirability of various alternatives for reducing the procyclical effect of margining practices on asset prices." This study group published its report in March (CGFS 2010a), henceforth referred to as the CGFS report.[5]

This *Backgrounder* discusses the CGFS report's recommendations, notes how they relate to market failures and can complement related policies, argues that they should be adopted in their strongest form internationally, including by Canada, and discusses how this might be achieved. The recommendations feature proposed regulations that emphasize through-the-cycle haircuts and initial margins, the potential use of add-ons to haircuts and margins by macroprudential authorities and market practices that are less procyclical than some that were employed before and during the crisis. The social benefits of these recommendations in terms of reducing the excessive procyclicality of the financial system and the costs of any future financial crises are seen as exceeding the recommendations' social costs, which will largely be borne by the users of financial products.

5 The CGFS report was focussed primarily on fixed income markets, as opposed to equity markets, partly because of their greater importance in the recent crisis and in the behaviour of banks.

How Policies on Margins and Haircuts Fit into Other Macroprudential Concerns

The behaviour of margin requirements and haircuts is only one source of financial system procyclicality. Measures that focus on reducing the systemic risk arising from the procyclicality of the financial system as a whole can be regarded as "macroprudential instruments."[6] The macroprudential approach to policy originated at the Bank for International Settlements with the idea of looking "beyond the risk position of individual institutions to risks affecting the system as a whole (Turner 2010)."

The financial crisis has given some urgency to being more specific about what constitutes a good macroprudential framework and what the main macroprudential instruments should be (CGFS 2010b). Some lists of potential macroprudential instruments are very long, but given the main risks in financial systems and the procyclical behaviour of the associated cycles, the key instruments can be placed in the groupings shown in Table 2: capital and leverage requirements; liquidity requirements; margin and haircut requirements; and loan-to-value ratio and other mortgage restrictions.[7]

Macroprudential instruments are effective when kept constant at a sufficiently tight level and/or are varied countercyclically. Thus far, the only clear international proposals for the countercyclical use of macroprudential instruments are for countercyclical capital requirements developed by the Basel Committee on Banking Supervision (Basel 2010b) and those in the CGFS report.[8]

Market Structure and Definitions

There are three markets where securities financing or margining for derivatives are important. Two of these apply to securities financing transactions. The first of these markets is for repo transactions, in which a firm selling securities agrees to buy them back at a specified price and time. In the contract governing such a transaction, a haircut is specified that determines the overcollateralization of the transaction, which protects the seller against a large part of the market risk in the event that its counterparty fails.

The second securities financing market is for securities lending transactions.[9] In the lending of securities, the borrower provides the lender with collateral in the form of high quality collateral securities or cash. The lender receives a fee, quoted as an annual percentage.

The final market where margin practices are important is for OTC derivatives transactions. Here, the contract determines any initial margin to be paid, as well as the variation margin that covers changes in the value of the contract as they occur.

A Market Failure

A market failure exists in the form of a negative externality associated with the setting of haircuts and initial margin terms; because the setting of these terms is procyclical, what appears to be reasonable behaviour by each individual market participant actually increases systemic risk.

6 The financial system will always be procyclical. What is important is dealing with the effects of excessive procyclicality on systemic risk.

7 There is significant overlap between macroprudential instruments in this list and the one in Recommendation 3 of G20 Working Group 1 (2009), which included the following: measures of leverage incorporating off-balance sheet exposures; capital requirements (moving over the cycle); loan-loss provisioning standards (which could use available credit information); margin requirements (using longer historical samples) and loan-to-value ratios for mortgages.

8 That being said, there is a clear case for examining the use of countercyclical mortgage restrictions, such as loan-to-value ratios. As well, banking supervisors could use Basel Pillar 2 to tighten leverage ratios or liquidity requirements during a boom.

9 Dreff (2010) discusses how securities lending improves financial market liquidity.

Table 2: Financial Cycles, Financial Risks, and Corresponding Macroprudential Instruments

Cycle	Risk	Macroprudential Instrument
Credit Cycle	Credit Risk	Capital Requirements Leverage Requirements
Liquidity Cycle	Liquidity Risk	Liquidity Requirements
Financial Asset Price Cycle	Market Risk Collateral Risk	Margin & Haircut Requirements
Property Price Cycle	Collateral Risk	Loan-to-value Restrictions (& other mortgage restrictions)

Source: Author.

This behaviour thus raises the probability of a downward spiral in liquidity, financial asset prices and the provision of financial services, possibly exacerbating a financial crisis.

For example, firms estimating the size of "supervisory haircuts"[10] (using models approved by their regulators) for the purposes of calculating capital requirements fail to take into account the negative externality that arises from setting them too low. As a result, there can be a sharp contraction in the supply of secured financing by banks and broker-dealers to the economy as a whole when assessments about the quality of pledged collateral change abruptly. Such a miscalculation increases the probability of a financial system spiral, as described above.

To remediate this, new regulatory policies should be adopted in this area that provide net social benefits by dealing with such negative externalities, taking into account the social costs of the regulations.

Proposed Policies to Deal with Market Failures

The CGFS study makes three types of recommendations to mitigate market failure. The first type, which includes two recommendations, deals directly with procyclicality arising from major cycles in haircuts and initial margins.[11] The second type, which includes three recommendations, covers unhelpful market practices that are, or have the potential to be, procyclical. The third type, which is self-explanatory and not elaborated on here, is a single recommendation that "macroprudential authorities consider the value of regularly conducting and disseminating a predominantly qualitative survey of credit terms used in these markets."

10 Supervisory haircuts are discussed in more detail below in the section on "Dealing Directly with Procyclicality."

11 Recent models that would suggest a role for the regulation of haircuts include Geanakoplos (2010), Stein (2010) and Valderrama (2010).

Dealing Directly with Procyclicality

In my view, the CGFS report's major recommendations dealing with mitigating market failure are proposed measures that would encourage minimum through-the-cycle haircuts and initial margin requirements, with the possibility of counter-cyclical add-ons in boom times.[12] These measures would be achieved by adjusting the current Basel Committee on Banking Supervision process for calculating capital requirements on exposures, which would be applied both to banks and broker-dealers,[13] as well as by setting regulations for central counterparties (CCPs) for repos, securities lending and OTC derivative transactions. It is important to note that only the minimum level of haircuts and initial margin requirements would be regulated. All institutions would be free to exceed the minimum when they feel it is insufficient to cover their risks.

Under current Basel regulations, a "supervisory haircut" must be set for every transaction secured by eligible collateral. (The supervisory haircut may be calculated using a model approved by the supervisor or may be taken from a list of standard regulatory haircuts.) The required capital is calculated based on any positive difference between the supervisory haircut and the haircut actually charged, as well as on the risk rating of the counterparty.

Under the CGFS report recommendation, regulated financial institutions calculating supervisory haircuts would not be allowed to use the modelling procedures that in boom times led to lower supervisory haircuts, and standard regulatory haircuts would be calculated on a through-the-cycle basis. In practice, this would mean the use of price volatility "over a long historical period that includes stressed market conditions."[14]

Moreover, during boom periods, macroprudential authorities would have the discretion to use add-ons to supervisory haircuts for all financial instruments or just for particular ones.[15] Because of the through-the-cycle approach for minimum haircuts and initial margins, leverage would not rise as much during booms when risk is taken on – indeed leverage could fall if add-ons were used – and would not fall as much during busts because it would be starting from a lower level.[16 17] Because there would be higher margin requirements and haircuts in good times, regulators would have to decide how high the minimums should be in order to get the best cost-benefit trade-off. Regulators will also have to be careful to

12 Bank of England (2009, p.19) notes that "Time-varying margins or haircuts on certain secured financial transactions could be levied on secured lending to other parts of the financial system — for example, 'shadow' banks or hedge funds. This would allow the authorities to influence the marginal cost of lending to non-bank financial companies if conditions became overly exuberant. As such, they might be a means of averting an imprudent increase in the leverage of non-banks."

13 These regulations should be applied to Canadian investment dealers on all their capital market activities.

14 Exact details of what this means would need to be worked out by regulatory authorities. The spirit of the recommendation would be to use a high percentile of the distribution of all x-day volatilities (for a specific x between 10 and 90) that can be calculated over a very long historical period (greater than 10 years, if possible).

15 Allowing supervisory haircuts to fall in crisis times would have no effect because financial institutions would not lower haircuts or margin requirements when they perceived risk to be high or rising. In fact, they would likely raise them in such circumstances, and they and CCPs should not be prevented from doing so.

16 Some commentators have criticized potential macroprudential policies because of a need to identify where the financial system is in the cycle. Calculations of through-the-cycle haircuts, however, rely only on historical data. Similarly, benchmarks for the use of counter-cyclical add-ons could be based entirely on the behaviour of financial variables (such as spreads of interest rates over government yields or volumes of secured financing) relative to historical norms. If there were good reason to believe that the future would be significantly different from the past, then some adjustment should be made to calculations of haircuts or benchmarks based on historical data. However, one needs to guard against too easily believing that "this time is different."

17 There appears to be no practical way to regulate an eventual overall fall in leverage during busts (but see footnote 19 below on a related area for CCPs). That being said, the build-up in risk (which is often not well understood) occurs in booms.

Table 3: Two Major Recommendations in CGFS Report and Markets to Which They Apply

Recommendation	Repo	Securities Lending	OTC Derivatives
Set capital requirements on securities financing transactions that are relatively stable through the cycle, with countercyclical add-on.	✓	✓	
Promote central counterparties; minimum constant through-the-cycle margins and haircuts for CCPs; countercyclical add-on.	✓	✓	✓

Source: Author from CGFS 2010 (a).

guard against the circumvention of the minimums, an important area for macroprudential surveillance.

Central counterparties that are properly risk-proofed can mitigate counterparty risk concerns for clearing standardized OTC derivatives, repos and securities lending transactions. They, too, should be regulated in such a way as to minimize the procyclicality of their margining and haircutting practices.

In particular, regulators should consider the imposition of minimum constant through-the-cycle initial margins and haircuts, as well as the possible use of counter-cyclical add-ons.[18 19] (To get the maximum benefit, there should be a consistent international approach.) The current G20 desire to clear standardized OTC derivatives on CCPs means that this is the appropriate time to implement this recommendation.

Taken together, the two major recommendations in this area deal most directly with the negative externalities related to the procyclical setting of initial margin requirements and haircuts. Table 3 makes clear which markets would be affected by these recommendations.

Dealing with Unhelpful Market Practices

As noted above, the CGFS report makes three other recommendations to deal with potentially procyclical market practices.

The first deals with encouraging margin calls to be made in an accurate and timely fashion both in boom and crisis periods.

18 It will be important to preserve the business case for CCPs. In particular, in order not to discourage the use of CCPs, minimum margins and haircuts at CCPs should not be higher than those set for regulated financial institutions. In addition, central banks should set their haircuts at or above the regulated minimums so as not to encourage the use of their facilities in preference to private markets.

19 Although only minimum haircuts and initial margins would be regulated under the recommendation, some close to the industry have raised the question as to whether *the rate of increase* of haircuts and initial margins charged by CCPs in systemically important markets should be regulated as well. This would help avoid sudden reductions in leverage with its attendant amplification effects on prices. However, it would have to be balanced against the potential extra risk assumed by the CCP. More work is required in this area.

Such discipline would help to dampen procyclical dynamics. In particular, it could reduce the need to seize and auction collateral or to close out contracts. Therefore, the report recommends that regulators should require every dealer to institute policies that explicitly link haircuts and collateral requirements to the strength (capacity and timeliness) of the dealer's process for valuing a particular type of collateral, counterparty or contract.

The second recommendation deals with OTC derivative contracts that often include "credit triggers" requiring more collateral from counterparties when they are downgraded by credit rating agencies. It would appear that market participants typically fail to take account of the negative externalities that come from the use of similar triggers by other market participants, a situation that can lead to a counterparty defaulting because it cannot meet simultaneous large margin calls. The report therefore recommends measures that:

- Discourage such terms that may generate large discrete margin calls;
- Encourage frequent variation margin payments;
- Disallow the use of credit triggers as a factor that would decrease capital charges by decreasing the estimated exposure at default;[20] and
- Require liquidity risk management systems that take appropriate account of how credit triggers faced by an institution would affect that institution's liquidity.

The final recommendation in this group addresses the situation, as occurred during the economic crisis, when some beneficial owners of securities – that is, those who effectively owned them even if they were registered in the name of another institution – withdrew rapidly from securities lending programs. This was because they lacked sufficient knowledge of the terms and risks of their programs and did not know how to reasonably change those terms to protect their interests.

The CGFS report, therefore, recommends that best practice guidelines be developed for negotiating terms for securities lending. It also recommends disclosing risks underlying the reinvestment activities of custodian banks administering such programs. At times of financial turbulence, this would lead to a smaller reduction in the supply of lendable assets, as well as in the liquidity of the repo market in which cash collateral is often invested.

The particular markets to which these three recommendations apply are shown in Table 4.

How The CGFS Recommendations Would Complement Other Policies

Policies dealing with margin requirements and haircuts are only one set of strategies that can deal with procyclicality in financial markets overall and, in particular, with a procyclical margin cycle. Indeed, the Bank of Canada believes the regulation of margin requirements and haircuts is just one of five ways to dampen the margin cycle and lead to continuously open financial markets for core funding (see Carney 2008 and Fontaine et al. 2009). The others are:

- Standardization of securitization, which would lead to a more active securitization market that is less prone to drying up in a crisis (see Hendry et al. 2010, and Selody and Woodman 2009);

20 This is consistent with the G20's call to reduce the extent to which credit ratings are hardwired into regulations.

Table 4: Three Complementary Recommendations in CGFS Report and Markets to Which They Apply

Recommendation	Repo	Securities Lending	OTC Derivatives
Link credit terms that can be applied to dealer's capacity to mark to market.	✓	✓	✓
Discourage and dampen effects of credit triggers.			✓
Develop best practice guidelines.		✓	

Source: Author from CGFS 2010 (a).

- The use of appropriately risk-proofed central counterparties[21] for repo – such as the new platform currently being constructed by the Canadian Derivatives Clearing Corporation (Investment Industry Association of Canada 2009) – and for clearing standardized derivative instruments, as agreed to by G20 leaders in 2009 (see G20 2009);
- Higher liquidity requirements in normal times for banks, as recently approved by the Basel Committee on Banking Supervision (Basel 2010a);[22] and
- Appropriate central bank liquidity provisions that take into account the avoidance of moral hazard (see Longworth 2010, and Selody and Wilkins 2010).

By dealing with the various sources of procyclicality along the margin spiral (see Figure 2), these policies together should lead to significantly dampened cycles in financial markets when compared to the 2007/09 period.

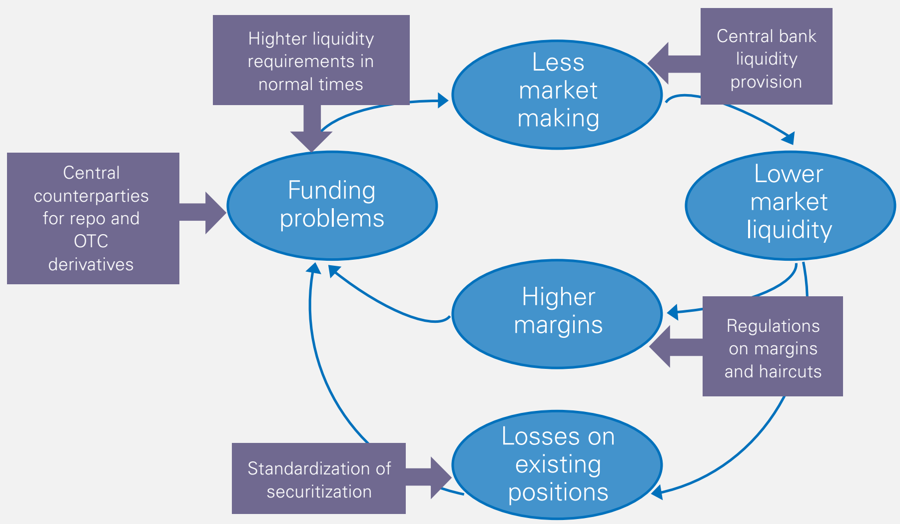
How Can These Recommendations be Implemented?

All the CGFS report recommendations are still that – recommendations. The report was sent to the international Financial Stability Board (FSB), which will consider it as part of its procyclicality agenda. Clearly, the work on the regulation of capital and liquidity was a higher priority in 2010, and appropriately so. But it is now time to move on to other areas of re-regulation that need to be dealt with before reform momentum is lost and it becomes extremely difficult to achieve further international agreements.

21 Central counterparties must be appropriately risk-proofed or the whole financial system can become endangered. The Committee on Payments and Settlement Systems (CPSS) and the International Organization of Securities Commissions have done considerable work on appropriate standards. See, for example, CPSS (2010), a consultative report on the application of earlier recommendations on CCPs to CCPs for OTC derivatives.

22 Northcott and Zelmer (2009) note that there are important macroprudential issues in the establishment of appropriate liquidity requirements.

Figure 2: How Recommendations on Margin Practices and Haircuts Would Complement Other Policies for Continuously Open Markets



Source: Adapted from presentations by Bank of Canada Governor Mark Carney and Former Deputy Governor David Longworth, the author.

International Implementation

Key to global implementation is that the recommendations be seen as a coherent package aimed at achieving a system-wide or macroprudential objective. Various recommendations would, at least at first glance, appear to fall under various international standards setters such as the Basel Committee on Banking Supervision, the International Organization of Securities Commissions for securities dealers and markets or domestic macroprudential authorities for the levels and countercyclical add-ons related to supervisory haircuts and associated capital.

Therefore, it is important that the FSB adopt the recommendations in principle and ask how standards setters and domestic authorities would apply them. Working out the details by standard setters should include studying the interactions with other existing or proposed regulations.

As currently worded, some of the recommendations appear somewhat weak ("recommend for consideration" or "consider"). Given the evident market failure in this area, it is incumbent upon those who do not want to implement the recommendations to show why they would not be in the best interest of the world financial system or, in other words, why the costs would exceed the evident benefits.

Domestic Implementation

In the near term, Canadian authorities should encourage the FSB to adopt the recommendations in principle in the near future, before they are sent to standard setting bodies and domestic authorities.

If there were to be no such international agreement in the next year or two, the fall-back position for Canada would be to attempt to obtain agreement that where the domestic currency authorities (i.e., Canadian authorities for Canadian dollar instruments) have set certain regulations, FSB member countries (including the European Union) would enforce those regulations on their banks and dealers internationally for transactions in financial instruments denominated in that currency.[23] This would enable all the recommendations to be implemented domestically and enforced internationally for Canadian-dollar-denominated instruments.

Failing a full international accord, such an approach could be particularly important for the application in Canada and other countries of the two major procyclicality recommendations dealing with through-the-cycle haircuts and margin requirements and possible countercyclical add-ons.

If there were no international agreement – even by currency – in the next couple of years, some of the recommendations could and should be implemented domestically. These should include the following parts of the recommendations regarding central counterparties:

- The promotion of such institutions;
- The mandating of minimum constant through-the-cycle margins for the new repo CCP (CDCC);[24]
- The consideration by domestic authorities of whether there are situations, such as a boom, when they would want to increase the margins on the new repo CCP; and
- The possible regulation for macroprudential reasons of domestic CCP margin requirements for the clearing of OTC derivatives if the important foreign CCPs were regulated in a similar fashion. (Otherwise, the competitive position of domestic CCPs vis-à-vis foreign CCPs would be significantly eroded).

The recommendation on linking credit terms that can be applied to a dealer's capacity to mark to market should also be implemented domestically, in part because there are good microprudential and institutional risk management reasons to do so in addition to macroprudential ones.

Meanwhile, best practice at financial institutions with respect to the use of credit triggers and related items is moving broadly in the directions suggested by the report. To encourage such practices and to remove a capital incentive to use credit triggers, Canada should adopt the recommendation to discourage and dampen the effects of credit triggers, even though it will not have its full effect without international agreement.

Finally, best practice guidelines for securities lending would likely be domestic in any event, and domestic guidelines would have their greatest effect on Canadian-dollar-denominated instruments. Therefore, they should be developed for Canada, regardless of an international accord.

With respect to the three last recommendations above, cross-border issues do not appear to raise any significant cost of domestic implementation when the same recommendations are not adopted abroad.

Broad agreement among the Office of the Superintendent of Financial Institutions, the Bank of Canada and the Department of Finance would allow most of these recommendations to be adopted domestically. Those recommendations that affect securities dealers and CCPs would also likely require the approval of provincial securities commissions.

Conclusion

A market failure in the setting of margin requirements and haircuts led to an exacerbation of both the financial boom of the past decade and the financial bust of

23 This has some similarities with the reciprocity provisions of the 2010 countercyclical capital buffer proposal of the Basel Committee on Banking Supervision.

24 Regulators will need to ensure that the balance of all the regulations relating to the new repo CCP does not discourage its use relative to similar transactions that currently clear through FINet, the fixed income netting service of Clearing and Depository Services.

2007/09, whose aftershocks are still being felt today. If implemented, the CGFS report recommendations would mitigate this type of market failure and lead to less procyclicality in financial markets. In particular, it is important to set supervisory haircuts in the calculation of capital requirements to encourage higher minimum through-the-cycle haircuts and to grant macroprudential authorities the powers to raise those supervisory haircuts when booms become too strong.

These CGFS recommendations should be adopted internationally by the FSB and incorporated into international standards. This will maximize their net benefits. However, in the absence of such an international agreement, requiring the worldwide implementation of requirements set by domestic authorities in instruments denominated in their own currency would be more effective that mere domestic regulation. Even in the absence of any type of international agreement in the next few years, Canada could usefully adopt many of the recommendations.

The CGFS recommendations are complementary to other policy initiatives that are being adopted in Canada and elsewhere to dampen the procyclicality in financial markets and thus reduce the probability of future financial crises.

Annex: Recommendations from CGFS report (CGFS 2010a, pp. viii-ix)

The CGFS report recommends a series of options, including some for consideration, directed at margining practices to dampen the build-up of leverage in good times and soften the systemic impact of the subsequent deleveraging. These options largely complement one another.

Recommended

- To reduce the impact on financial markets of not promptly recognizing declines in the value of collateral or derivative positions, link the credit terms that can be applied to securities financing transactions (SFTs) and OTC derivatives contracts to: (i) the dealers' capacity to mark to market the collateral posted (in the case of SFTs) and the contracts themselves (in the case of OTC derivatives); and (ii) the frequency with which this is done.

- To minimize the risk of breaches of credit triggers used in agreements governing OTC derivatives trades adversely affecting financial market conditions: (i) discourage the use of contractual terms that may generate large, discrete margin calls on counterparties and require that market participants, irrespective of their credit rating, be subject to frequent variation margin payments, ideally on a daily basis, when the mark to market losses on derivatives trades exceed moderate threshold amounts; (ii) for all regulated market participants, disallow the use of credit triggers as a factor decreasing the estimated exposure at default for determining regulatory capital charges; and (iii) require regulated market participants to have liquidity risk management systems that take appropriate account of various credit trigger-related liquidity shocks.

- To improve the stability of the supply of secured financing through the securities lending program, develop best practice guidelines for negotiating terms for securities lending and require custodian banks administering such programs to provide improved disclosure of the risks underlying their reinvestment activities.

- To allow macroprudential authorities to assess financing conditions in secured lending and OTC derivatives markets, consider the value of regularly conducting and disseminating a predominantly qualitative survey of credit terms used in these markets, including haircuts, initial margins, eligible pools of collateral assets, maturities and other terms of financing.

Recommended for Consideration

- To reduce financial system procyclicality resulting from changes in the supply of secured financing driven by market practices for setting haircuts in SFTs: (i) set capital requirements on securities financing for banks and broker-dealers on the basis of considerations that under normal circumstances are relatively stable through the cycle; and (ii) consider the prudential impacts and practical implications of imposing a countercyclical add-on which can be used by macroprudential authorities to make discretionary changes to capital requirements on secured lending.

- To reduce financial system procyclicality arising from margining practices in secured lending and derivatives transactions, regulators and authorities should: (i) promote the use of properly risk-proofed central counterparties (CCPs) that mitigate counterparty risk concerns for clearing standardized derivative instruments and seriously consider the use of such counterparties – among other options – for SFTs; (ii) encourage supervisors and other relevant authorities to review the policies and risk management practices of central counterparties for possible procyclical impacts related to haircuts and margins; and (iii) consider the prudential impacts and practical implications of imposing, through such CCPs, minimum constant through-the-cycle margins and haircuts, with a possible countercyclical add-on.

References

Adrian, Tobias and Hyun Song Shin. 2008. "Financial intermediary leverage and value at risk." *Federal Reserve Bank of New York Staff Reports* No. 338.

Bank of England. 2009. "The Role of Macroprudential Policy." A Discussion Paper. November.

Basel Committee on Banking Supervision. 2010(a). "The Group of Governors and Heads of Supervision reach broad agreement on Basel Committee capital and liquidity reform package." News Release, July 26.

Basel Committee on Banking Supervision. 2010(b). "Group of Governors and Heads of Supervision announces higher global minimum capital standards." News Release, September 12.

Brunnermeier, Markus and Lasse Heje Pedersen. 2009. "Market Liquidity and Funding Liquidity." *The Review of Financial Studies* 22(6): 2201-2238.

Carney, Mark. 2008. "Building Continuous Markets." Speech to the Canada-United Kingdom Chamber of Commerce. London. November 19.

Committee on Payment and Settlement Systems. 2010. "Guidance on the application of the 2004 CPSS-IOSCO Recommendations for Central Counterparties to OTC derivatives CCPs – consultative report." CPSS Report No 89. May.

Committee on the Global Financial System. 2009. "The role of valuation and leverage in procyclicality." CGFS Papers No 34.

Committee on the Global Financial System. 2010(a). "The role of margin requirements and haircuts in procyclicality." CGFS Papers No 36.

Committee on the Global Financial System. 2010(b). "Macroprudential instruments and frameworks: A stocktaking of issues and experiences." CGFS Papers No 38.

Coughenour, Jay and Mohsen Saad. 2004. "Common market-makers and commonality in liquidity." *Journal of Financial Economics,* 73:37-70.

Dreff, Nadja. 2010. "The Role of Securities Lending in Market Liquidity." *Bank of Canada Financial System Review.* June, 41-45.

Fontaine, Jean-Sébastien, Jack Selody and Carolyn Wilkins. 2009. "Improving the Resilience of Core Funding Markets." *Bank of Canada Financial System Review.* December, 41-46.

G20. 2009. "Leaders' Statement, The Pittsburgh Summit." September 24-25.

G20 Working Group 1. 2009. "Enhancing Sound Regulation and Strengthening Transparency." Final Report, March 25.

Gârleanu, Nicolae and Lasse Heje Pedersen. 2009. "Margin-based asset pricing and deviations from the law of one price." To be published in *The Review of Financial Studies*.

Geanakoplos, John. 2010. "The Leverage Cycle." Cowles Foundation Discussion Paper 1715R. January.

Hameed, Allaudeen, Wenjin Kang and S. Vishwanathan. 2009. "Stock market declines and liquidity." *Journal of Finance*, 65: 257-294.

Hendry, Scott, Stéphane Lavoie and Carolyn Wilkins. 2010. "Securitized Products, Disclosure, and the Reduction of Systemic Risk." *Bank of Canada Financial System Review.* June, 47-55.

Institute of International Finance. 2008. *Final Report of the IIF Committee on Market Best Practices.* July.

Institute of International Finance. 2009. *Reform in the financial services industry: strengthening practices for a more stable system.* December.

International Swaps and Derivatives Association. 2010. *Best Practices for the OTC Derivatives Collateral Process.*

International Swaps and Derivatives Association, Managed Funds Association and Securities Industry and Financial Markets Association. 2010. Independent Amounts. Release 2.0. March 1. Available at: http://www.isda.org/c_and_a/pdf/Independent-Amount-WhitePaper-Final.pdf.

Investment Industry Association of Canada. 2009. "Fixed-Income Central Counterparty Facilities Planned for Canada." News Release. Toronto. December 15.

Kamhi, Nadja. 2009. "Procyclicality and Margin Requirements." *Bank of Canada Financial System Review.* June, 55-57.

Longworth, David. 2010. "Bank of Canada Liquidity Facilities: Past, Present, and Future." Remarks to C.D. Howe Institute. February 17.

Northcott, Carol Ann and Mark Zelmer. 2009. "Liquidity Standards in a Macroprudential Context." *Bank of Canada Financial System Review.* December, 35-40.

Selody, Jack and Carolyn Wilkins. 2010. "The Bank of Canada's Extraordinary Liquidity Policies and Moral Hazard." *Bank of Canada System Review.* June, 29-32.

Selody, Jack and Elizabeth Woodman. 2009. "Reform of Securitization." *Bank of Canada Financial System Review.* December, 47-52.

Stein, Jeremy. 2010. "Securitization, Shadow Banking, and Financial Fragility." *Daedalus.* Vol. 139, no. 4: 41-51.

Turner, Philip. 2010. "Macroprudential Policies and the Cycle." In Stephany Griffith-Jones, Eric Helleiner and Ngaire Woods, eds. *The Financial Stability Board: An Effective Fourth Pillar of Global Economic Governance?* Waterloo, ON: The Centre for International Governance Innovation.

Valderrama, Laura. 2010. "Macroprudential Regulation under Repo Funding." *IMF Working Paper WP/10/220.*

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