

Reducing Pro-cyclicality of Financial Regulation and Supervision¹

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I. INTRODUCTION

I. 1. Pro-cyclicality of Regulation and Financial Stability

In considering how to reform the world's financial system following the recent crisis that began on Wall Street, it has been asserted that the policies and practices of bank supervisors are too pro-cyclical and may exacerbate the volatility of credit markets. In reality, although the crisis, and in particular the turmoil of the last few months, has added new dimensions to the issue, pro-cyclicality of financial regulation had been identified as a relevant topic well before the beginning of the present financial crisis.

The purpose of this paper is to explore relevant sources of pro-cyclicality and to contribute to the formulation of appropriate recommendations for financial reforms based on lessons to be learned from the financial crisis. To this end, the following observations and principles provide background and context for the paper. First, financial regulation should not deviate from its institutional objective, which is to preserve systemic stability in the financial sector. Therefore, sources of pro-cyclicality should be removed from financial regulation only insofar as this would enhance financial stability, not for the purpose of redirecting financial regulation from its statutory objective to that of dampening economic cycles. Removing pro-cyclicality is not equivalent to becoming part of the tool kit of 'counter-cyclical' policies. Second, the relevant notion of 'cycle' for the purpose of this paper comprises both up- and down-turns in economic activity and the over- and under-shootings of asset prices, including the formation and the bursting of financial bubbles. Financial supervision may be pro-cyclical with respect to both these types of cycles, which may or may not coincide.

Stable financial markets can be expected to exhibit cycles in which risks expand and contract. It is appropriate for banks and supervisors to behave in response to those cycles and this type of response should not be discouraged or eliminated. Whether the line can be drawn clearly between appropriate response to changing risk conditions and destabilizing pro-cyclicality is a difficult question, but this paper posits one demarcation between acceptable and avoidable responses of financial supervision to changing cyclical conditions. Appropriate supervisory actions or requirements are those that are logical consequences to reasonably accurate risk measures or distribution estimates. Unacceptable, or avoidable, pro-cyclicality arises when risk is underestimated during an expansion or overestimated in a downturn; and/or supervisory responses to risk assessments are too weak in an expansion or excessive (and therefore destabilizing) in a downturn. Inaccurate risk assessments can come about in a financial cycle in two

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respects. First, during an expansion, financial imbalances build up but are accompanied by benign economic conditions, including rising asset prices. Financial firms' performance indicators in an expansion tend to be good, and it is easy to be lulled into the view that risk is low when in fact it may be rising. Similarly, during a downturn, it is easy to assume risk is rising when in fact losses may be materializing but risk is not increasing. Second, it is difficult for an individual firm to incorporate into its risk measurement the behavior over time of other market participants. While supervisors have a better vantage point of risk correlations between firms, it is also difficult for them to accurately predict various market participants' decisions and their impact on the length and amplitude of the cycle.

Whether or not risk measurements are reasonably accurate, there can be impediments to appropriate *responses* to changes in risk. During expansions, the competitive pressures banks face and the short-term horizon of shareholders (which leads to short-term horizons for many compensation schemes and other bank decision processes) can result in managers turning a blind eye whether or not risk is measured accurately. Supervisors can find it difficult to counteract these pressures. During downturns, the tables are often turned and supervisors require actions that are aimed at protecting individual banks (such as requiring additional reserves or a tightening of lending standards) but may not be in the interest of financial stability.

I. 2. Accounting Issues

A relevant part of the debate on pro-cyclicality is the connection between accounting and regulatory issues. The principles of mark-to-market accounting have been criticized as contributing to pro-cyclicality by both bankers and supervisors. While this paper does not discuss accounting standards, three considerations are relevant for a discussion of pro-cyclicality and supervision.

First, it should be noted that one aspect of the pro-cyclicality of financial supervision is the adoption, by prudential regulators, of accounting standards designed for the purpose of providing information to financial markets. The appropriateness of this approach can be questioned, in light of the increasing propensity of financial markets to experience boom and bust cycles with the associated volatility of asset prices, and in particular, as was the case in the current credit contraction, the associated liquidity crisis.

Second, the approach of mark-to-market accounting can be questioned in view of the different purposes of prudential regulation and market information respectively. It would be quite legitimate to contend that the valuation of any given balance sheet should be consistent with the purpose for which it is made. In particular, valuation of a given asset should not be the same whether it is for a) informing the market and potential investors; b) calculating the taxes to be paid; or c) measuring prudential requirements. Industry accounting standards refer to the first of the three purposes, though in recent times these have been increasingly adopted by supervisors for their own purposes. This was due to the dominant conviction that 'the market always knows best' and to some reluctance of supervisors to take the risk of setting different standards for prudential purposes. The

crisis has shown that these motives may have been flawed and that the time may be right for a clearer differentiation between ‘market’ and ‘prudential’ standards.

I. 3. Pro-cyclical Supervisory Processes

There are a number of aspects of supervision that should be considered when thinking about pro-cyclical.

The first is capital regulation, particularly the new Basel II risk-based standards. The question is whether basing capital requirements on borrower risk requires banks to hold more capital as the credit environment deteriorates, thereby causing a further contraction in lending. A second issue is provisioning, where institutions in most jurisdictions are required to reserve for estimated inherent losses in the portfolio. This implies that as credit conditions deteriorate, banks have to add to their reserves, putting more pressure on their ability to continue lending. A third policy issue is liquidity. While few prescriptive policies exist regarding liquidity, the question is whether revisions in supervisory policy or practice could help ensure that ample liquidity exists at supervised institutions throughout the cycle.

For the threesome of capital, reserves, and liquidity – arguably banks’ own internal safety nets – one of the challenges is to have a framework that balances the need for institutions to draw on these safety nets during credit downturns, but at the same time ensuring that they have adequate cushions throughout the cycle.

Finally, there is a fourth and less often discussed, but perhaps more important, issue that should be considered when assessing pro-cyclical: that of the behavior of supervisors. For a variety of reasons, supervisors often miss opportunities to take action that could result in dampening credit cycles, particularly asset bubbles. Similarly, supervisors sometimes take actions that achieve micro-prudential goals but may not be in the best interest of financial stability.

II. CAPITAL

Most observers believe that the Basel II capital regime is an advance over Basel I because it aligns regulatory capital more closely with risk. The Basel Committee recognized the potentially pro-cyclical effects of this approach but ultimately decided that the prudential benefits of a consistent, risk-sensitive capital framework outweighed these concerns. Indeed, the overall approach of the Basel II framework is a sensible one and conceptually would not inappropriately amplify credit cycles, as long as the risk measures that banks use are reasonably accurate. Supervisors are correct in wanting capital cushions to be higher at those banks that have higher risk profiles, other things being equal.

That said, there are three ways in which the Basel II framework and its implementation should be amended. The first is to implement Pillar 2 in the robust manner that the Basel Committee had in mind, which would offset the pro-cyclical effects arising from Pillar 1.

The second is to strengthen the ‘use test’ concept; and the third is a necessary correction of a flawed approach to capital requirements for securitizations.

II. 1. Capital Cushion

The purpose of capital requirements is to ensure that banks are able to stay solvent during the downward slope of economic cycles and when experiencing losses unrelated to the cycle. Therefore, the supervisory system should enable capital at banks to decline as losses are recognized. In practice, this means that capital cushions should build up during expansions and be used as appropriate during downturns.

Basel II, Pillar 1, ties required capital to measurements of credit risk, operational risk, and market risk. The credit risk measures under Pillar 1 are based on well-established portfolio credit risk modeling techniques, and can be expected to correlate with the credit cycle. This is acceptable, and indeed important, if the risk measurements are reasonably sound. However, Pillar 1 was never conceived to be sufficient on its own. Rather, the Basel Committee recognized that the Pillar 1 calculations had certain measurement weaknesses, which might vary from bank to bank. Pillar 2 was designed to ensure that banks identified and offset those weaknesses.

Pillar 2 requires that a bank have an internal capital adequacy assessment process (ICAAP) to determine how much capital to operate with in order to support its risks. It is designed to be a parallel process in which a bank assesses all its risks, including those captured by Pillar 1, and makes a separate determination of the amount of capital needed under certain assumptions of risk tolerance. Regulators expect Pillar 2 capital to be larger than Pillar 1 capital and as such will always be the binding capital requirement.²

While Pillar 2 is supposed to reflect all risks, including those not fully or properly captured in Pillar 1, it also importantly is designed to be what banks use to plan for capital adequacy in future years. Banks are expected to consider future economic cycles and determine how much capital is required to survive a stress scenario and still meet minimum Pillar 1 requirements after having done so. In some jurisdictions, Pillar 2 is being implemented as a simple “add-on” to Pillar 1, which is not consistent with its original intent as a separate, parallel process. Given that Pillar 1 is likely to be pro-cyclical due to the pro-cyclicality of banks’ internal credit ratings, a constant amount of capital added to Pillar 1 capital will simply retain the pro-cyclicality. A robust implementation of Pillar 2 requires it to be a process separate from Pillar 1 calculations, where all of a specific bank’s risks are taken into account, as well as future economic volatility.

Returning to the question of pro-cyclicality, one objective of capital requirements is to ensure that capital builds up during expansions and is available to absorb losses during downturns. During expansions, Pillar 1 credit risk measurements may decline for a significant portion of an expansion, when in fact credit risk is more likely to be building

² In jurisdictions such as the U.S. that have capital requirements in addition to Basel II, Pillar 2 may not be binding but will be *closer* to the binding constraint than capital required under Pillar 1.

up during the expansion. Appropriate use of Pillar 2 analysis, including taking into account the impact of a downturn, will ensure that the Pillar 2 cushion will increase during the expansion. The opposite effects will be seen during the downturn: Pillar 1 calculations may point to higher capital requirements, even though in fact losses are *materializing* rather than the probability of losses – risk -- rising. Appropriate implementation of Pillar 2 will enable the cushion to decline as losses are recognized.

This is the way the U.S. regulators are moving with Pillar 2 implementation. Banks are expected to develop economic capital models which must contemplate, among other things, the impact of future economic volatility on capital needs. The U.S. approach does involve significant examination staff to perform ongoing evaluation of the economic capital modeling process, among other things. For other jurisdictions where this is not feasible, steps still should be taken to move in this direction.

Recommendation: Pillar 2 implementation in all jurisdictions should require that banks conduct an analysis that includes an assumption of risk tolerance, an assessment of all significant risks, consideration of future economic volatility, and other issues relevant to the bank’s capital needs. The Pillar 2 analysis should be conducted regularly and approved by supervisors.

Pillar 2 requires that banks have internal processes to determine how much capital to operate with above and beyond Pillar 1. Each bank’s analysis should reflect current and future economic conditions, including stress-testing and economic capital analyses that use time horizons and methodologies sufficient to capture the potential impact of an economic downturn. The cushion resulting from Pillar 2 analysis should not be a constant add-on, but rather should mitigate the cyclicity of Pillar 1 by building up in expansions and shrinking in downturns.

II. 2. Use Test

The Basel II framework incorporates a concept informally called the ‘use test’ which sets forth an expectation that banks will use the data collected for capital requirement purposes for other management purposes as well. In other words, banks are expected to use a consistent framework in which the core risk analytics serve as the basis for generating Pillar 1 required regulatory capital calculations, internal economic capital calculations, multi-year expected loss and risk calculations for risk adjusted return analytics, and risk analytics for strategic decisions. Unfortunately, though the concept is a valuable one, very little guidance exists on how supervisors will evaluate whether banks are meeting the use test.

Recommendation: Supervisors should elaborate upon and consistently enforce the use test in the Basel II framework.

One important aspect of the use test deals with the incorporation of risk and a long-term view in all decision-making in the financial institution. Risk metrics developed and calculated for Basel II capital requirement purposes contain

valuable risk information, which is improving on a daily basis as banks gain more experience and data. This information appears to be often ignored in decision-making. Addressing this failing could significantly mitigate some of the practices in which banks engaged leading up to the recent mortgage bubble, such as lowering underwriting standards, pricing to meet the competition without regard to risk return metrics, and using volume-based incentives.

II. 3. Securitizations

The Basel II treatment of securitized assets is one area of the regime that is excessively pro-cyclical. As indicated above, the principle of tying capital requirements to measured risk is appropriate if the risk measurements are sound. The Basel II capital requirements for securitizations link capital risk weights to third-party ratings, an approach known as the ratings-based approach (RBA). As is now well-known, these ratings were flawed and resulted in capital requirements for non-senior tranches of ordinary securitizations such as residential mortgage backed securities (RMBS) that are well below what their actual risk would imply. The problem is even more severe in the case of re-securitizations.

The Basel Committee understands that there are problems with the ratings-based approach and is considering appropriate amendments. However, given that this may take a while, an interim solution needs to be implemented as soon as possible so that the current ratings-based approach will not continue to be used.

Recommendation: New securitization rules should:

- **Establish separate capital requirements for re-securitizations versus securitizations;**
- **Eliminate use of external ratings and make the supervisory formula approach (SFA) the preferred approach for all securitizations.**
 - **One exception could be for AAA rated senior tranches of ordinary securitizations for which the capital could be set at around 100 basis points.**

Re-securitizations should be treated separately because they exhibit very different risk behavior (particularly risk of extreme loss) than a tranche of a security made out of a pool of loans. When a portfolio of loans is made into securitization tranches, idiosyncratic risk is diversified away leaving mostly systematic effects – hence the correlation is high for such securitization tranches. When these securitization tranches comprise the portfolio of assets for a re-securitization, the result is even greater systematic risk and resulting correlation.

Use of external ratings presents several problems. Rating agencies have been very slow in changing ratings in the past, based on conditions in the underlying asset pool, and that is likely to continue to some degree. As a result, if the capital requirement is anchored on ratings, even if the underlying pool deteriorates in credit characteristics, the capital for the securitization tranche will not change

(even though it should) until the external rating is revised. Rating agencies are changing their rating methodologies in response to criticism, which, though a positive development, does not involve bank supervisors and underscores the need to remove ratings from the securitization capital rules.

An additional problem with anchoring the capital rules in ratings is that ratings of securitization tranches are, and likely will continue to be, based on measurement of expected loss rates of the tranches. Basel II capital requirements, on the other hand, are based on unexpected losses. Fairly small increases in expected loss rates can imply fairly large increases in unexpected loss.

The supervisory formula approach is one of the options in the Basel II treatment of securitizations. While complex, the SFA is much more faithful to the results of well-developed models of securitization than external ratings. However, the SFA applies only to securitizations and cannot be readily extended to re-securitizations.

Recommendation: The Basel Committee should immediately begin to develop an alternative approach for re-securitizations that is derived from a model based on the “look-through” principle. In the interim, the capital for re-securitizations should be set at 100%.

Re-securitizations have three layers. There is an intermediate layer of securitization tranches comprising the assets of the special purpose vehicle (SPV), underneath which is the third layer of loans underlying each of the assets of the SPV. The ‘look through’ approach means looking all the way through to the characteristics of the loans.

‘Look through’ is in contrast with Wall Street industry practice of looking at the assets of the SPV as bonds. For unexpected risk measures (like capital), such an approach is inadequate.

II. 4. Other Capital Ratios

In the U.S., there are two capital regimes in addition to the Basel risk-based requirements: a leverage ratio and the Prompt Corrective Action (PCA) regime, which incorporates both leverage and risk-based ratios. The ‘well-capitalized’ simple Tier 1 leverage ratio in the U.S., at 5%, is often the binding ratio, rather than the 6% Tier 1 well-capitalized *risk-based* capital ratio, and this minimum leverage ratio encourages banks to seek high-yielding assets during expansions when credit spreads are narrowing.

Recommendation: Consider eliminating the simple leverage well-capitalized category from the U.S. capital standards, and focus on minimum risk-based capital standards, including implementing Pillar 2 for all banks of significant size.

A non-risk sensitive capital requirement that is set too high cannot only be more pro-cyclical than a risk-based requirement, but can also inhibit banks from investing in safe positions. Supervisors (and legislators if appropriate) in the U.S. and other jurisdictions that have capital requirements supplemental to the risk-based requirements should think carefully about whether the supplemental requirements are counterproductive. At a minimum, during the current crisis, regulators should consider crafting exemptions to the leverage ratio requirement for especially low-risk loans that are needed to expand bank credit to very credit-worthy borrowers.

III. PROVISIONS

Loan loss provisioning and reserving by banks and other financial services sector participants has long been associated with detrimental pro-cyclical effects on financial institution stability and credit availability. That provisioning and reserving requirements rise at the part of the credit cycle when financial institutions are ‘incurring’ loan losses, results in constrained, if not negative, earnings, thereby reducing credit availability and exacerbating cyclicity.

Many have argued that the pro-cyclical effects of provisioning can be reduced, if not eliminated, by allowing provisions to be made during the good part of the credit cycle in order to build reserves that institutions would then draw upon to absorb losses incurred during the bad part of the credit cycle. Such a procedure would depart from longstanding accounting doctrine, which provides that provisions for losses may only be made for ‘incurred’ losses, which must be both probable and estimable in the current accounting period, and may not represent losses that may, or will, be incurred in the future. It would therefore require a differentiation between prudential and market accounting practices.

A number of alternative provisioning concepts have been recommended over the years by industry participants, including, bankers, economists and academics. ‘Life of the loan’ provisioning was a popular discussion in the late 1980’s and early 1990’s. Life of the loan provisioning would require that reserves be established for losses expected over the life of the loan, rather than over the course of a defined accounting period (e.g., loss expected over a quarter or a year, versus over a longer period representing the average life of the type of loans in question – for example, 2.5-3 years for commercial loans). The result of life of loan provisioning would be higher reserves. Most recently, the concept of ‘dynamic provisioning’ has been put forth as a method for smoothing and reducing the pro-cyclical effects of provisioning.

Most bankers and bank supervisors have long supported a provisioning approach that gives them greater freedom to base provisions on predicted, but not yet realized, losses than current accounting standards permit. Given the current priority to enable banks to build up cushions during expansions that can be drawn upon during downturns, efforts should be redoubled to work out an approach that is acceptable to securities regulators and accounting standard-setters.

Recommendation: Bank supervisors should move toward some form of provisioning that is closer to an over the life expected loss approach enabling the reserve to reflect the totality of expected losses (such as dynamic provisioning).

Moving toward a dynamic provisioning approach can be accomplished, if not through a change of accounting rules, through revised prudential rules. An analysis of tax consequences in different jurisdictions would also need to be conducted.

It is important to note that forward-looking provisioning is dependent on sound loss estimates, which is a significant challenge for financial institutions. Therefore, any effort toward dynamic provisioning should also be focused on improving estimations of both expected and incurred loan losses.

IV. LIQUIDITY

The sudden insolvency of large institutions during the recent market turmoil calls into question whether capital-based standards are a sufficient means for ensuring the stability of financial markets. Many of these institutions were well capitalized under current regulatory standards almost up to the point when they required rescue. Most supervisors have liquidity guidance in place, and the Basel Committee is highlighting the importance of the liquidity management with its recently enhanced guidance. In the wake of the current financial crisis, it appears even stronger measures may be necessary.

In recent cases, it appears that many institutions funded their obligations with short term money, assuming it could be rolled over. Some were unable to raise sufficient liquidity to meet their current obligations and were forced to sell assets into a rapidly declining market. In turn, these forced sales accelerated the downward cycle. This situation differs markedly from the traditional case in which a bank runs out of cash because its assets have significantly declined in value.

To be sure, many large institutions did not adhere to long-standing practices for sound liquidity management. Boards and top management at several seriously troubled institutions reported they were unaware of and surprised by the total size of their short term funding obligations. Institutions are supposed to anticipate their funding needs and have a liquidity plan that identifies maturity and re-pricing mismatches and that considers unusual economic and market conditions (including stress scenarios).

In response to these concerns, the Basel Committee recently released *Principles for Sound Liquidity Risk Management and Supervision*, which is an update of guidance it

issued in 2000.³ It highlights the need for the Board of Directors to determine its tolerance for assuming liquidity risk and for management to measure and monitor the institution's current liquidity risk exposure.

While the updated guidance presents the key issues, the Basel Committee should also consider adding liquidity requirements to the capital standards, for two reasons. First, the deficiencies in liquidity risk management that have come to light during the recent global financial crisis indicates that banks did not fully follow key elements of the guidance the Committee published in 2000, and their supervisors did not require them to take corrective action.

Second, assuring systemic stability is becoming a more complex proposition. Modern technology closely interconnects large institutions and many of their customers, both as counterparties to financial transactions and as providers of short term money. It has generally been assumed that more efficient market clearing has reduced the need for liquidity at individual institutions, and that derivatives (also enabled by modern technology) have made it possible for institutions to shed risk exposures they don't desire. We now see that markets are more fragile and derivatives less effective in transferring risk than we had thought. A big contributor to the problem is that sufficient information on counterparty risk exposure is not available because some key derivatives instruments like credit default swaps are not traded on exchanges and some very important market participants are not required to report their positions to any supervisor. In addition, some instruments appear to be too complicated and too untested for buyers and sellers to understand fully.

Bright line standards would better assure institutions have sufficient liquidity. A rough and ready, but less accurate, alternative approach would be to modify the definition of Tier II capital to focus more on unencumbered capital and to increase the required level of Tier II capital.

Under either approach, during periods of economic expansion a liquidity standard would moderate the growth of a bank's assets and lengthen the duration of its funding. During periods of market stress, it would help to assure it could continue to fund its obligations unabated.

³ The revised guidance, which the Basel Committee issued in September 2008, stresses:

- the importance of establishing a liquidity risk tolerance;
- the maintenance of an adequate level of liquidity, including through a cushion of liquid assets;
- the necessity of allocating liquidity costs, benefits and risks to all significant business activities;
- the identification and measurement of the full range of liquidity risks, including contingent liquidity risks;
- the design and use of severe stress test scenarios;
- the need for a robust and operational contingency funding plan;
- the management of intraday liquidity risk and collateral; and
- public disclosure in promoting market discipline.

Recommendation: The Basel Committee should develop a risk-based liquidity standard (and a revision of the definition of capital), where banks would have to:

- **Estimate their net outflows for the coming year on an ongoing basis and maintain the ability to meet those outflows through asset liquidity or funding sources.**
- **Include in Tier II capital only unencumbered term debt instead of subordinated debt.**

Banks would have to demonstrate in written calculations that they have sufficient resources available to meet the maximum daily net funds outflow during the coming year (estimated on a one-year rolling time horizon). In these calculations, the demand for funds would include both on and off-balance sheet obligations, as well as all contractual obligations such as derivatives, and swaps. Funding obligations would be re-estimated daily, and the analysis should be subjected to stress testing and scenario analysis to ensure it is robust. Qualifying funding resources would include near cash instruments, such as Basel member government-backed securities, which would be valued at par. Other resources, such as asset sales and credit lines (other than credit lines from central banks) would be discounted (risk-adjusted).

As to Tier II capital, it would serve a dual purpose of loss absorption and liquidity. If this approach was adopted in lieu of the above liquidity metric approach, minimum Tier II requirements would need to rise significantly in order to provide an adequate liquidity cushion.

V. SUPERVISORY BEHAVIOR

Financial institution supervisors are the linchpin of a stable financial system. Legal and policy reforms will not succeed in preventing or dampening future financial crises without well-designed and rigorously-executed supervisory programs to support those reforms.

For any given legal and policy framework, the actions of supervisors are essential to avoid unintentional pro-cyclicality. Distinguishing between behaviors or policies that enhance safety and soundness rather than de-stabilize is not always simple, but a guiding principle is that supervisory approaches should be based on objective estimates of risk and themselves immune to the cycles of euphoria and pessimism to which markets are prone. It is not uncommon for supervisors to underestimate risk in an expansion and/or overestimate risk in a downturn, leading to supervisory responses that amplify cycles.

Supervisors face enormous challenges in balancing micro prudential concerns with systemic considerations and priorities, while under the watchful eye of various constituencies. Individual market participants are often professionally not equipped and mentally not disposed to detect at an early stage the change in external conditions that

constitute the essence of cyclicity. It is a salient task of supervisors to act as interface between the micro and the macro dimension of financial instability.

Too often, when financial firms or markets go awry, legislators, other government officials, the public, or even the banks themselves assign blame to the supervisors. At the same time it may not be easy for supervisors to warn against excessive optimism when the market is euphoric and the voice of Cassandra is seen as spoiling the party. This is not to say that supervisors should not be held accountable, but the regulatory and supervisory architecture within governments must be such as to safeguard their independence, professional expertise and status.

Supervisors must be willing and politically free to report and push back against erosion in standards before serious damage is done, and must be sufficiently skilled to do so. Similarly, they must be aware of the consequences of acting too harshly at certain points in the credit cycle. While these are difficult principles to execute in practice, we should attempt to achieve them, including by ensuring the following prerequisites.

Recommendation: Supervisors should be sufficient in number, well-paid, and well-trained, including in the increasingly important, evolving area of risk metrics. Supervisory agencies should be: independent and accountable; non-duplicative; and they should promulgate clear and transparent policies.

Supervisory agencies cannot be expected to perform the highly professional job required of them, in an increasingly complex industry whose use of risk metrics and models is growing and changing daily, without adequate support. A well-trained, adequately sized, dynamic supervisory force is perhaps the single most important element in achieving and maintaining stable financial markets. Supervisory budgets need to be sufficient to attract and retain competent staff. More fundamentally, consideration should be given to developing university programs in financial supervision so that supervisory agencies do not have to train their own staff from scratch, and also so that the profession of financial supervision carries with it appropriate stature and attention.

Agencies charged with financial regulation and supervision, including the persons who run them, should be relatively free of routine oversight and influence by single-party government bodies. Oversight should derive primarily from regular performance hearings by national legislators. Functional regulators should be consolidated and not be in competition with one another.

Wherever possible, the policies and expectations of supervisors should be clearly articulated to banks and the public. Too often, supervisory rules or expectations are left unwritten due to the indecision or interagency (within or across jurisdictions) disagreements of approach. This results in a great deal of uncertainty as well as delay in achieving appropriate banking practices.

Recommendation: Supervisors should have the authority and the resolve to intervene when risk is building up. In handling troubled banks they should carefully consider the potential external, pro-cyclical impact of harsh remedies such as requiring significant capital-raising.

Bank supervisors should have the authority to take action during an expansionary phase of the cycle, including requiring individual firms to bolster their capital, reserves, and liquidity positions, or generally “leaning against the wind” if the industry as a whole is heading toward an asset bubble. In addition to having the authority, however, supervisors must resolve to use it. Federal banking regulators in the US have sufficient statutory authority to intervene in risky practices they believe to be fundamentally unsafe or unsound in time to minimize the ultimate damage, but too often have chosen not to use them, or have used informal, private measures for too long as conditions worsened.

Supervisors cannot predict the timing of a cycle, but they have a better vantage point than individual banks to see the build-up of financial risk, since they see all banks from the “inside”. While it is not always possible for anyone to understand all the correlations over the cycle, supervisors still have the best view of the correlations between banks, and therefore will have a better sense of an impending asset bubble forming within the supervised industry. It is critical that they act on this information by ensuring that industry participants understand the risk and undertake appropriate actions. In addition, supervisors need to develop improved approaches to detecting cycles and their turning points, including conducting research and developing indicators for their own use. They should develop and publicize principles that will guide them when an impending asset bubble is identified.

One circumstance where bank supervisors tend to act without hesitation is when a bank is weakened to the point of requiring an enforcement action. At times like these, the statutory capital regime becomes irrelevant as supervisors, in an attempt to protect the bank and the government from undue losses, often require unrealistically high ratios (in addition to numerous other directives), precisely at the time that a bank needs to *use* its capital. Supervisors may in some cases have good reasons for this – for example, propelling a non-viable bank toward resolution – but it should be done with full awareness of its impact rather than as an automatic approach.

VI. CONCLUSION

Financial and economic cycles are part and parcel of financial stability. While it was not the purpose of this paper to closely investigate the relationship between economic and financial cycles, it is clear from recent experience that highly volatile financial cycles can cause significant damage to financial markets and to the real economy. This paper has explored whether the amplitude of financial cycles is unnecessarily increased by

supervisory policies or actions, and if so, what revisions can be made to correct this phenomenon.

Three major themes run throughout this paper. One is that there appear to be a number of disincentives to accurately assess risk at different points in the cycle. Risk tends to be overestimated in downturns and underestimated in expansions. Another theme is that while regulatory policy and supervision practices focus, appropriately, on the need for banks to build up capital, reserves, and liquidity in order to survive economic ups and downs, these same policies and practices do not necessarily enable banks to *use* these safeguards during cyclical downturns. Finally, and perhaps most important, is the role of supervisors. Supervisors have a critically important role to play in ensuring financial institutions appropriately respond to, rather than exacerbate, financial and economic cycles.