

**Report of the Financial Stability Forum on
Addressing Procyclicality in the Financial System**

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Table of Contents

Preface.....	1
I. Overview of recommendations	2
1. Capital.....	2
2. Provisioning	4
3. Valuation and leverage	5
II. A conceptual framework.....	8
1. Motivation and background	8
2. Procyclicality: mechanisms and drivers.....	8
3. Policy response: desirable features and attributes	9
4. Priority areas for mitigating procyclicality	11
III. Recommendations on bank capital	14
1. Countercyclical capital buffers	14
2. Revamping VaR-based capital estimates.....	15
3. Supplementary measure to contain leverage.....	15
4. Use of stress testing in validating capital buffers	16
5. Monitoring capital procyclicality.....	16
IV. Recommendations on bank provisions	19
1. Scope for judgement in existing standards	19
2. Enhancements to loan loss provisioning standards.....	20
3. Provisioning and Basel II.....	21
V. Recommendations on leverage and valuation.....	23
1. Quantitative indicators and constraints on leverage	23
2. Measuring funding and liquidity risk.....	24
3. Data collection on leverage and maturity mismatches	25
4. Possible accounting enhancements	25

Preface

In its April 2008 *Report on Enhancing Market and Institutional Resilience*, the Financial Stability Forum (FSF) noted that it would examine the forces that contribute to procyclicality in the financial system and develop options for mitigating it. Addressing procyclicality in the financial system is an essential component of strengthening the macroprudential orientation of regulatory and supervisory frameworks.

The FSF identified three areas as priorities for policy action: the capital regime, bank provisioning practices, and the interaction between valuation and leverage. The following FSF working groups have supported the formulation of policy recommendations in these areas:

- Working Group on Bank Capital Issues, joint with the Basel Committee on Banking Supervision (BCBS), and chaired by Nout Wellink, Governor, Netherlands Bank and BCBS Chair;
- Working Group on Provisioning, co-chaired by Kathleen Casey, Commissioner, US Securities and Exchange Commission (SEC) and Chair of the Technical Committee of the International Organization of Securities Commissions (IOSCO), and John Dugan, Comptroller of the Currency and Chair of the Joint Forum; and
- Working Group on Leverage and Valuation, joint with the Committee on the Global Financial System (CGFS), and chaired by Jean-Pierre Landau, Deputy Governor, Bank of France.

The reports of these working groups are available on the FSF website as complements to this report, along with a conceptual paper on procyclicality prepared by the Bank for International Settlements (BIS).

The recommendations in this report are the result of collaborative work carried out in these working groups over the last nine months, involving national authorities, the BCBS, BIS, CGFS, International Monetary Fund (IMF), IOSCO, International Accounting Standards Board (IASB) and the US Financial Accounting Standards Board (FASB). The recommendations encompass a mix of quantitative/rules-based and discretionary measures that are interrelated and reinforce one another. They address the mechanisms that amplify procyclicality both in good and bad times. They are intended to be implemented over time once conditions return to normal, so as not to cause further stress on the financial system.

The FSF will monitor the implementation of these recommendations.

I. Overview of recommendations

This chapter summarises the recommendations presented in the report. These recommendations are further elaborated in the chapters that follow.¹

1. Capital

The objective of the measures below is to ensure that the Basel II capital framework promotes prudent capital buffers over the credit cycle and mitigates the risk that the regulatory capital framework amplifies the transmission of shocks between the financial and real sectors. An integrated package of measures covering the recommendations should be issued for consultation before the end of 2009.

1.1. The BCBS should strengthen the regulatory capital framework so that the quality and level of capital in the banking system increase during strong economic conditions and can be drawn down during periods of economic and financial stress.

The BCBS should develop mechanisms by which the quality of the capital base and the buffers above the regulatory minimum are built up during periods of strong earnings growth so that they are available to absorb greater losses in stressful environments.

As part of this process, the BCBS will assess the appropriate balance between discretionary and non-discretionary measures. It will also develop standards for what constitutes a sound bank capital planning framework.

An important basis for such a countercyclical capital buffer is a clear definition of what constitutes high quality capital.

1.2. The BCBS should revise the market risk framework of Basel II to reduce the reliance on cyclical VaR-based capital estimates.

The BCBS should carry out a more fundamental review of the market risk framework, including the use of Value-at-Risk (VaR) estimates as the basis for the minimum capital requirement. A key objective should be to find ways to reduce the reliance on cyclical VaR-based capital estimates, for example by expanding the role of stress testing within the framework.

1.3. The BCBS should supplement the risk-based capital requirement with a simple, non-risk based measure to help contain the build-up of leverage in the banking system and put a floor under the Basel II framework.

¹ These recommendations are drawn from the background reports on capital, provisioning, and leverage and valuation, available on the FSF website.

This measure should complement the risk-based approach of Basel II and should be transparent and simple to implement; limit the build-up of leverage in the banking system during booms; put a floor under the risk-based measure that becomes binding if firms take on excessive leverage or attempt to arbitrage the risk-based regime; and not produce adverse incentives.

As part of this effort, the BCBS will assess how to address the impact of differences between International Financial Reporting standards (IFRS) and US Generally Accepted Accounting Principles (GAAP), the appropriate treatment of off-balance sheet exposures and guarantees, and the treatment of highly liquid government securities.

1.4. Supervisors should use the BCBS enhanced stress testing practices as a critical part of the Pillar 2 supervisory review process to validate the adequacy of banks' capital buffers above the minimum regulatory capital requirement.

Supervisors should use the sound principles for stress testing presented by the BCBS in January 2009 to assess the adequacy of banks' capital buffers above the regulatory minimum during periods of economic expansion, when financial market, credit and liquidity conditions appear benign, and when bank earnings are high. The BCBS will conduct an assessment of compliance with the principles once they have been finalised and implemented at banks.

1.5. The BCBS should, on a continuing basis, monitor the impact of the Basel II framework and make appropriate adjustments to dampen excessive cyclicality of the minimum capital requirements.

The BCBS is tracking the impact of the Basel II framework on the level and cyclicality of capital requirements through regular data collection.

In parallel, the BCBS should review mechanisms through which known channels of cyclicality in the minimum Pillar 1 capital requirement, such as migrations in credit scores, could be addressed. The BCBS is working to develop concrete proposals to mitigate any excessive impact of ratings migrations on regulatory capital requirements.

1.6. The BCBS should, on a continuing basis, carry out regular assessments of the risk coverage of the capital framework in relation to financial developments and banks' evolving risk profiles and make timely enhancements.

Reflecting the significant capital shortfalls that emerged at a number of banks during the crisis, the risk coverage of the capital framework needs to be improved, and three main areas have been identified: capital requirements for resecuritisations; the standardised capital requirement for short term liquidity lines to asset-backed commercial paper (ABCP) conduits and risk weights for general market disruption lines; and stressed VaR add-on and incremental risk charges to capture default and migration risk for unsecuritised credit products.

More broadly, the BCBS should strengthen the Basel II framework in (i) the treatment of counterparty credit risk under the three pillars of Basel II; and (ii) the role of external ratings.

The BCBS should carry out regular assessments of the need for future enhancements to the framework to ensure that banks' evolving risk profiles are captured in an appropriate manner.

2. Provisioning

Earlier recognition of loan losses could have dampened cyclical moves in the current crisis. Under the current accounting requirements of an incurred loss model, a provision for loan losses is recognised only when a loss impairment event or events have taken place that are likely to result in non-payment of a loan in the future. Identification of the loss event is a difficult and subjective process that results in a range of practice and, potentially, a failure to fully recognise existing credit losses earlier in the credit cycle. Earlier identification of credit losses is consistent both with financial statement users' needs for transparency regarding changes in credit trends and with prudential objectives of safety and soundness.

2.1. The FASB and IASB should issue a statement that reiterates for relevant regulators, financial institutions and their auditors that existing standards require the use of judgement to determine an incurred loss for provisioning of loan losses.

The FSF determined that the incurred loss approach allows for considerable use of management's expert credit judgement to ensure that loan loss provisions reflect the credit losses inherent in loan portfolios, but banks have not always used this flexibility. Possible sources of the diversity in practice include: historical country practices, management biases, differing legal and tax requirements, influences of regulators and auditor practices. The wide range of practice was not perceived as a difference between US GAAP and IFRS, but rather, different application practices. Based on such a statement by the IASB and FASB, the diligence used by all institutions to incorporate reasonable judgments regarding the impact of factors that are likely to cause loan losses to differ from historical levels may improve practice and help lessen procyclicality while enhancing the consistency of information provided to investors.

2.2. The FASB and IASB should reconsider the incurred loss model by analysing alternative approaches for recognising and measuring loan losses that incorporate a broader range of available credit information. The FSF recommends that the FASB and IASB establish a resource group to provide input on technical issues and complete this project on an expedited basis.

Standards setters should reconsider their current loan loss provisioning requirements and related disclosures including by analysing fair value, expected loss and dynamic provisioning approaches.

2.3. The BCBS should undertake a review of Basel II to reduce or eliminate disincentives for establishing appropriate provisions for loan losses.

Certain features of the Basel II framework are potentially significant disincentives for improved provisioning practices. For example, the 1.25 percentage points and the 60 basis

points constraints on the amounts of reserves that may be added to capital under the standardised and internal ratings-based (IRB) approaches, respectively, may create a disincentive for banks whose level of provisions approach those thresholds.

2.4. The BCBS should undertake a review of Basel II to assess the adequacy of disclosure of loan loss provisioning under Pillar 3.

The BCBS should review and enhance the Pillar 3 disclosures about loan loss provisioning practices and related credit risk and credit losses in loan portfolios to improve the transparency of provisioning practices.

3. Valuation and leverage

A number of developments in financial systems – including increased direct and embedded leverage, leverage funded with short-term debt, more marketable assets, and extensive application of fair value accounting – have contributed to an increase in the procyclicality of the system.

The procyclical effects arising from the interplay between leverage and valuation need to be assessed from a macroprudential perspective. Regulators and supervisors should obtain a clear and comprehensive picture of aggregate leverage and liquidity and have the necessary tools to trigger enhanced surveillance if necessary.

3.1. Authorities should use quantitative indicators and/or constraints on leverage and margins as macroprudential tools for supervisory purposes.

3.1.1 Authorities should use quantitative indicators of leverage as guides for policy, both at the institution-specific and at the macroprudential (system-wide) level. On leverage ratios for banks, work by the BCBS to supplement the risk based capital requirement with a simple, non-risk based measure is welcome (see Recommendation 1.3).

A leverage ratio should be used as a vulnerability indicator and an instrument for supervisory and macroprudential policy. At the sectoral level, leverage ratios should be computed by national authorities for the main types of financial institutions to the extent they are of systemic importance.

3.1.2 Authorities should review enforcing minimum initial margins and haircuts for OTC derivatives and securities financing transactions.

Enforcing minimum initial margins for over-the-counter (OTC) derivatives and minimum haircuts or margins for securities financing transactions will reduce leverage in position taking, while requiring margins or haircuts to be relatively stable over the cycle will reduce the tendency for margining and collateral practices to create adverse feedback effects at times of market stress.

3.2. The BCBS and the CGFS should launch a joint research program to measure funding and liquidity risk attached to maturity transformation, enabling the pricing of liquidity risk in the financial system.

The BCBS and the CGFS should develop a research effort to address funding and liquidity risk, starting in 2009. A key component of this research agenda will be to define robust measures of funding and liquidity risk, which could assist assessments and pricing of liquidity risk by the private sector. Stress tests to gauge the probability and magnitude of a liquidity crisis in different market environments will be considered in this light.

3.3. Based on the conclusions of the above research program, the BIS and IMF could make available to authorities information on leverage and on maturity mismatches on a system-wide basis.

Following the completion of the research project under Recommendation 3.2, the FSF recommends that, on the basis of its findings, information be collected on leverage and maturity mismatches, on a coordinated international basis, including from off-balance sheet vehicles and money market funds. The BIS and IMF could jointly develop the conceptual framework for the data collection. Data could be collected by the BIS or the IMF.

3.4. Accounting standard setters and prudential supervisors should examine the use of valuation reserves or adjustments for fair valued financial instruments when data or modelling needed to support their valuation is weak.

Standard setters and supervisors should explore whether firms should be required to hold valuation reserves or to otherwise adjust valuations to avoid overstatement of income when significant uncertainty about valuation exists. For financial instruments that are not actively traded, insufficient market depth or reliance on valuation models using unobservable inputs that are difficult to verify may create considerable valuation uncertainty.

One solution could be to partially de-link the valuation process (in mark-to-market) from certain aspects of income and profit recognition when significant uncertainty exists. The size of the reserve or adjustment could be based on the degree of uncertainty created by the weakness in the data or underlying modelling approach. Increases and decreases in the reserve or adjustment should be fully transparent.

3.5. Accounting standard setters and prudential supervisors should examine possible changes to relevant standards to dampen adverse dynamics potentially associated with fair value accounting. Possible ways to reduce this potential impact include the following:

- **Enhancing the accounting model so that the use of fair value accounting is carefully examined for financial instruments of credit intermediaries.**
- **Transfers between financial asset categories.**
- **Simplifying hedge accounting requirements.**

FINANCIAL STABILITY FORUM

These efforts from the accounting standard setters should be undertaken in cooperation with prudential supervisors, including the BCBS. The BCBS should consider the implications of standards setters' efforts on capital measures.

II. A conceptual framework

1. Motivation and background

The term “procyclicality” refers to the dynamic interactions (positive feedback mechanisms) between the financial and the real sectors of the economy. These mutually reinforcing interactions tend to amplify business cycle fluctuations and cause or exacerbate financial instability.

The current financial crisis is a systemic event of large proportions that illustrates the disruptive effects of procyclicality. Institutions that experienced extensive losses faced growing difficulties in replenishing capital. This, in turn, induced them to cut credit extension and dispose of assets. Their retrenchment precipitated a weakening of economic activity, thereby raising the risk of a further deterioration in their financial strength. The costs to the broader economy have been large and are mounting.

The policy recommendations set out in this report will enhance the longer-term capacity of the prudential framework to minimise the likelihood and impact of systemic financial shocks. They reflect a strengthened emphasis on a system-wide approach to financial stability and embed a macroprudential orientation to regulatory and supervisory frameworks. Addressing procyclicality requires the involvement of various authorities and standard setting bodies. Regulators and prudential supervisors and related standard setters, accounting standards setting bodies and macroprudential regulators have been closely involved in this project.

2. Procyclicality: mechanisms and drivers

The feedback mechanisms between the financial and real sectors of the economy are particularly apparent and disruptive during an economic downturn or when the financial system is facing strains. A weakened financial system cannot absorb further losses without causing amplifying retrenchment. As a result, the system acts as a shock amplifier rather than playing its usual role of shock absorber.

But the seeds of the strains during downturns are sowed during the preceding upswing. While the timing of crises is essentially unpredictable, severe financial sector distress is preceded by unusually strong credit and asset price growth and by prolonged periods of unusually low risk premia. Amplifying feedback mechanisms can be as potent in the expansion phase of the cycle as they are in downturns. As the economy grows, cash flows, incomes and asset prices rise, risk appetite increases and external funding constraints are eased, which in turn facilitates risk-taking. The financial system typically does not build up sufficient capital and liquidity buffers during benign economic conditions, when it is easier and cheaper to do so, to protect it during more challenging times.

Financial system procyclicality can be traced to two fundamental sources.

The first source is limitations in risk measurement. Measures of risk and the assumptions underlying risk measurement practices tend to be highly procyclical. Near-horizon estimates

of quantitative inputs such as short-term volatility, asset and default correlations, probabilities of default and loss given default all move procyclically. As a result, measures of risk often spike once tensions arise, but may be quite low even as vulnerabilities and risk build up during the expansion phase. For example, the credit risk embedded in trading portfolios are underestimated if measured over short holding periods using data that do not capture full credit cycles. This may lull participants into a false sense of security, as was the case ahead of the current turmoil.

The second source is distortions in incentives. A first instance involves conflicts of interest between providers and users of funds (“principal-agent” issues). Financial contracts address these conflicts only imperfectly. For example, collateral-based lending or margin requirements can protect lenders and traders from actions taken by borrowers and counterparties that could erode the value of their claims. But by establishing a direct link between asset valuations and funding, fluctuations in margin requirements can exacerbate procyclicality. A second instance of incentive distortion involves actions that may be rational from the perspective of individual agents but, collectively, may result in undesirable outcomes. For example, individual retrenchment in times of stress can be self-defeating, by inducing fire sales or a credit crunch. Likewise, even late in the expansion phase, it may be difficult for firms to refrain from expanding high-risk lending or investment for fear of diminishing market share or short-term profitability, even if this implies taking excessive risk from the perspective of the system as a whole.

Short time horizons play a significant role in these two sources of procyclicality. For instance, short horizons for risk measurement add to procyclicality by encouraging market participants to extrapolate from current conditions and ignore or downplay the tendency for measures to revert to their long-term averages. Short horizons may themselves be the outcome of mechanisms to address principal-agent problems, such as the frequent benchmarking and monitoring of individual performance.

Alongside limitations in risk measurement and distortions in incentives, elements of the policy framework may act as contributing factors to procyclicality. For example, other things equal, the more procyclical are the measures of risk embedded in prudential arrangements (such as minimum requirements for capital or liquidity), the more likely it is that they would strengthen the positive feedback mechanisms between credit and the business cycle. Similarly, compared with historical-cost based accounting, fair value accounting may add to procyclicality by making valuations more sensitive to the economic cycle, which may in turn have a procyclical impact on risk-taking decisions based on these valuations.

3. Policy response: desirable features and attributes

The main rationale for policy intervention is to limit the amplification resulting from the limitations in risk measurement and/or distortions in incentives. Success does not require the authorities to have better information than the private sector. However, it does imply overcoming the incentive problems faced by individual economic agents. In addition it requires removing or mitigating existing elements in the policy framework that may contribute to procyclicality. While a key objective of policy is to reduce the incidence of

FINANCIAL STABILITY FORUM

serious stress for the financial system as a whole, the complete elimination of cycles is clearly an unrealistic and undesirable goal.

Addressing procyclicality is an integral part of strengthening the macroprudential or systemic orientation of regulatory and supervisory frameworks. A macroprudential orientation focuses policy on avoiding damage to the financial system as a whole with an eye to the impact on the real economy. This requires attention to common exposures across financial institutions to macroeconomic factors as well as to the inter-linkages between them (for example, through counterparty relationships). It also explicitly takes into account the impact of the collective behaviour of economic agents on aggregate risk, rather than treating aggregate risk and asset prices as independent of their actions, as individual market participants would do. This contrasts with the microprudential focus on individual institutions and markets, which assumes that the stability of the system derives from the stability of its components.

The guiding principles of efforts to reduce procyclicality are to (i) limit the costs of financial distress in the contraction phase and (ii) restrain the build-up of risk during the expansion phase. One key mechanism is to build up buffers in the system during expansions and to provide for their controlled run-down when strains materialise. This would help to limit the costs of incipient financial stress and contribute to restraining risk taking during the expansion phase. Crucially, this implies a willingness to allow buffers to be run down. Otherwise, the buffers de facto become minima, and from shock absorbers turn into shock amplifiers.

Policy measures to deal with procyclicality need to be evaluated against a set of desirable features. First and foremost, the measures should be effective in promoting the goal of limiting procyclicality. In addition, measures should be assessed against other desirable attributes, including simplicity, transparency, fairness and low implementation costs.

Measures that are *simple* to understand and implement are preferable to more complex ones. Indeed, one common charge against risk measurement practices and some policy initiatives is that they are excessively complex. Excessive complexity may have undermined risk management effectiveness by making it hard for senior management and supervisors to understand the underlying risks.

Measures should be *transparent* so as to allow them be identified separately from other forms of intervention. Transparency and simplicity are mutually supportive. Transparency can contribute to the effectiveness of the measures, and is essential for the accountability of those implementing them. And, in line with the distinction between a micro and macroprudential approach, it may help to highlight the wedge between risks as seen from the perspective of the individual institution and risks imposed on the system as a whole.

The measures should seek to be *fair* in the sense of preserving a level playing field across financial market players, both within and across national jurisdictions. This means avoiding competitive distortions, to the extent that financial stability concerns allow. At the same time, it brings to the fore issues about the institutional coverage and about the operational definition of the cycle in the context of institutions with international operations. Moreover, measures should seek to limit evasion and hence regulatory arbitrage.

Finally, the measures should have, to the extent possible, *low implementation costs*. This implies effective enforcement at limited expense, and suggests that policy tools should build

as far as possible on existing structures and instruments, such as through recalibration and “overlays”. It is preferable to use instruments in line with their original purpose rather than for goals for which they were not originally designed.

An important characteristic of different options for policy is the degree to which they combine clear and fixed rules with discretion in the application and calibration of these rules. In principle, rules are preferable. If feasible, and provided they are based on sound analysis and linked to robust and relevant aspects of the financial cycle, rules leave less room for policy error. Moreover, once in place, they do not require continuous justification, and hence can act as an effective pre-commitment device. As a result, they can relieve pressure on authorities to avoid taking action during the expansion phase, as a tightening of prudential standards would inevitably be seen as going against the manifest view of the markets. At the same time, automatic stabilisers and discretionary measures should not necessarily be seen as mutually exclusive. Discretionary measures can complement automatic stabilisers if the latter face design limitations or if shocks outside the normal range envisaged by the system materialise. Likewise, discretionary measures might be more easily tailored to the nature of the build-up in risk taking and vulnerabilities as long as these are identifiable in real time. The key issue is how to constrain and discipline any such discretion, such as through a process that puts a premium on transparency and accountability.

4. Priority areas for mitigating procyclicality

Policies that can address financial system procyclicality touch upon different aspects of the prudential and regulatory framework. Moreover, there are important interdependencies between different areas and types of policy tools. This report develops substantive recommendations in three key areas: bank capital regulation, bank loan loss provisioning, and the interactions between leverage in the economy, especially the financial sector, and valuations. The choice of these areas of focus balances the need for concrete and actionable recommendations, in areas that have the highest impact in terms of the ultimate goal of mitigating procyclicality, with the need to pay attention to the links between different measures.

The focus on prudential instruments applicable to banks is a reflection of the key role of the banking sector in the overall intermediation process. Banks are a central link in the chain that determines the supply, pricing and allocation of credit in the economy. Their contribution can be through origination and direct holding of debt or, alternatively, can take the form of financing and underwriting of markets that bring together borrowers and lenders.

As the recent crisis amply demonstrated, bank capital supports overall credit intermediation and risk management, whether credit intermediation occurred through an institution’s own balance sheet or through its support for the functioning of credit markets. The events that precipitated the crisis highlighted the crucial role that banks and related entities (such as structured investment vehicles) played throughout the chain that transformed mortgages into traded securities. This was especially true when the magnitude of the underlying risks became apparent and losses materialised.

The emphasis on regulatory capital is also justified given its key role in influencing bank decisions regarding balance sheet leverage and risk-taking. Regarding regulatory capital, a

fundamental tension needs to be addressed. On the one hand, increased risk sensitivity is a key objective of the Basel II framework. It is designed to encourage capital cushions that better reflect underlying risks and to limit the scope for regulatory arbitrage, by aligning prudential standards more closely with existing risk measurement practices. In this respect, it is important that it covers all types of risk that are material for banks. On the other hand, given the way measures of risk behave, higher risk sensitivity implies that minimum capital requirements on a given portfolio tend to move procyclically. They tend to fall during expansions, when measured risk is low, and rise, possibly abruptly, during contractions, as measured risk increases and the credit quality of balance sheets manifestly deteriorates. This can amplify credit and business cycles and hence the risk of financial instability.

Another area that generates procyclicality is leverage in the financial system and the economy at large. As discussed above, balance sheet leverage levels tend to fluctuate in tandem with the business cycle, on one hand, and perceptions and quantitative assessments of risk, on the other. This is true not only for traditional measures of balance sheet leverage (such as ratios of capital to assets) but also for leverage embedded in investment choices and trading patterns (such as the ability to trade on margin and the size of haircuts on collateral). For instance, during rising markets, measures of asset price volatility tend to decline, compressing trading margins and collateral requirements. The reverse is true during periods of precipitous asset price declines, when volatility tends to spike higher together with demands for safety margins by counterparties.

A key policy target in dealing with procyclical patterns in leverage is to calibrate prudential instruments so that buffers are created during the upswing of the cycle that can subsequently be used to absorb the strains during the downturn. There are several types of buffers that already exist: bank capital, loan loss provisions, initial margin and collateral requirements are similar tools from this perspective. Their role as risk absorbers across the cycle can be strengthened through a number of means. One is to promote the use of so-called “through-the-cycle” measures of risk in the calculation of these buffers. These measures assess and evaluate risk over relatively long time horizons, and thus should be more attuned to the cyclical patterns of variation in risk. Another, complementary, way is the cyclical smoothing of the buffers themselves through explicit adjustments that aim to reduce their tendency to vary with the cycle and keep them closer to an average level across the different cyclical phases. Better measurement of leverage, along with the use of leverage indicators as a complement to other, typically risk-based measures of imbalances in the financial sector and individual institutions, can also significantly contribute to the reduction of procyclicality in the system.

A challenge in the introduction of such smoothing measures is how to avoid conflicts with existing rules and standards as well as inconsistencies across different components of the prudential framework. Coordinated approaches to the review of initiatives across the spectrum of policy instruments are important from this perspective. The interactions and interdependencies between valuation and financial reporting standards, on the one hand, and practices in loss provisioning, trading margins and collateral haircuts, on the other, are a case in point. Recent events have shown that some accounting practices can have a first-order effect on procyclicality, hence appropriate adjustments could be effective in reducing

FINANCIAL STABILITY FORUM

procyclicality. At the same time, market confidence is enhanced when the integrity of accounting standards and their usefulness to investors and other users are preserved.² In reviewing certain accounting issues in this report, the FSF has sought to recommend consideration by accounting standards setters of approaches that could enhance transparency and financial reporting. The FSF has also recommended that these efforts by the accounting standard setters should be undertaken in cooperation with prudential supervisors, including the BCBS, and that the BCBS should consider the implications of standards setters' efforts on capital measures. For example, when necessary, the BCBS may need to consider adjustments to accounting figures before using them in the calibration of prudential tools (e.g., "prudential filters").

The three areas of focus of this report are not the only areas where policies can be adopted to dampen financial system procyclicality. Other important areas include the promotion of more robust risk measurement methodologies and practices, the encouragement of compensation schemes that take a longer perspective on the risk-reward profile of performance, insurance schemes that can provide support to institutions under strain, and the framework for dealing with failing financial firms (especially those of systemic importance). Policy initiatives have been taken in these areas that complement the actions recommended here.³ In turn, implementation of these actions will reinforce those in additional areas. For example, the adoption of through-the-cycle risk measures in the calculation of prudential parameters will promote their broader use by practitioners in risk management as well as in performance evaluation. Similarly, the introduction of regulatory buffers against the risk of the potential evaporation of liquidity in funding markets would induce financial firms to incorporate cyclical patterns in the availability and cost of funding liquidity in their risk management framework.

² The existing conceptual frameworks of the IASB and the US FASB indicate that the objective of general purpose financial statements of business entities is to provide information about the financial position, performance, and changes in financial position of an entity that is useful to a wide range of users in making economic decisions. Such users include present and potential investors, lenders, suppliers and other trade creditors, customers, employees, governments and their agencies, and the public. Primacy is given to the informational needs of investors (both equity and debt security holders).

³ The FSF endorsed and issued in April 2009 *Principles for Sound Compensation Practices*, which call for compensation schemes to take a longer perspective on the risk-reward profile of performance. The FSF also endorsed and issued in April 2009 *High-level Principles for Cross-border Cooperation on Crisis Management*, which commit relevant authorities to cooperate in the event of failure of a large cross-border financial firm.

III. Recommendations on bank capital⁴

1. Countercyclical capital buffers

The BCBS should strengthen the regulatory capital framework so that the quality and level of capital in the banking system increase during strong economic conditions and can be drawn down during periods of economic and financial stress. (*Recommendation 1.1*)

The capital framework should be enhanced to produce higher capital buffers during strong economic conditions that can be drawn down to a credible minimum requirement during periods of economic and financial stress. Such a countercyclical capital buffer will make the banking sector more resilient to stress and contribute to dampening the inherent procyclicality of the financial system and broader economic activity. To avoid amplifying near term procyclicality, any such measure would be implemented once conditions in the banking sector and the economy improve.

In particular, the BCBS should develop mechanisms by which the quality of the capital base and the buffers above the regulatory minimum are built up during periods of strong earnings growth so that they are available to absorb greater losses in stressful environments. Building such a countercyclical capital buffer on banks' earnings capacity would provide a simple and practical link between: (i) the portfolio composition and risk profile of individual banks; (ii) the build-up of risk in the banking system; and (iii) cycles of credit growth, financial innovation and leverage in the broader economy.

As part of this process, the BCBS will assess the appropriate balance between discretionary and non-discretionary measures to achieve higher capital levels and ways to promote greater international consistency while reflecting differences in national economic cycles. The BCBS also will develop standards for what constitutes a sound capital planning framework, including appropriate dividend and share buy-back policies as a way to provide rigour and consistency in achieving appropriate capital buffers within and across jurisdictions.

An important basis for such a countercyclical capital buffer is a clear definition of capital. Banks entered this financial crisis with insufficient levels of high quality capital. This must be addressed once normal conditions are restored. Common shares and reserves/retained earnings should be the predominant form of capital within the Tier 1 requirement. Moreover, to ensure the consistency and quality of the regulatory capital base, the BCBS will work to harmonise capital deductions and prudential filters. To reduce the extent to which existing differences give rise to confusion over the quality of capital and to promote more transparency and comparability, the BCBS should enhance the disclosure of the components of regulatory capital.

⁴ The numbering of the recommendations set forth in parenthesis in this chapter corresponds to the numbering in the overview chapter.

2. Revamping VaR-based capital estimates

The BCBS should revise the market risk framework of Basel II to reduce the reliance on cyclical VaR-based capital estimates. (*Recommendation 1.2*)

Since the financial crisis began in mid-2007, the majority of losses and most of the build up of leverage occurred in the trading book. Losses in many banks' trading books during the financial crisis have been significantly higher than minimum capital requirements under the Pillar 1 market risk rules. Moreover, VaR based on the most recent one-year observation period has proven to be procyclical.

The BCBS has taken steps to improve the coverage of trading book risks and reduce procyclicality of minimum market risk capital requirements through the proposed introduction of the incremental risk charge, application of banking book treatment for certain structured products and the introduction of a stressed VaR requirement.

In addition to the changes already proposed, the BCBS should carry out a more fundamental review of the market risk framework, including the use of VaR estimates as the basis for the minimum capital requirement. A key objective should be to find ways to reduce the reliance on cyclical VaR-based capital estimates, for example by expanding the role of stress testing within the framework.

3. Supplementary measure to contain leverage

The BCBS should supplement the risk-based capital requirement with a simple, non-risk-based measure to help contain the build up of leverage in the banking system and put a floor under the Basel II framework. (*Recommendation 1.3*)

The crisis revealed that many financial institutions, including many banks, had built up excessive levels of on- and off-balance sheet leverage while still showing adequate Tier 1 capital ratios. As a result, many banks were required to deleverage causing further stress to financial markets, earnings and capital.

To contain the build-up of leverage in the banking system, the BCBS should develop and introduce a simple, non-risk based measure to complement the risk-based approach of Basel II. The criteria seen as particularly important in the development of a supplementary measure include:

- Transparent and simple to implement;
- Helps limit the build up of leverage in the banking system during periods of rapid credit expansion and revenue growth;
- Puts a simple floor under the risk-based measure that becomes binding if firms take on excessive leverage or attempt to arbitrage the risk-based regime; and
- Does not produce adverse incentives.

As part of this effort, the BCBS will assess how to address the impact of IFRS/US GAAP accounting differences, the appropriate treatment of off-balance sheet exposures and guarantees, and the treatment of highly liquid government securities, while maintaining the transparency and simplicity of the measure.

4. Use of stress testing in validating capital buffers

Supervisors should use the BCBS enhanced stress testing practices as a critical part of the Pillar 2 supervisory review process to validate the adequacy of banks' capital buffers above the minimum regulatory capital requirement. (*Recommendation 1.4*)

The depth and duration of the financial crisis has highlighted inadequacies in banks' stress testing practices prior to and during the crisis. Not only was the crisis far more severe in many respects than was indicated by bank stress tests results, but it was possibly compounded by weaknesses in stress testing practices that limited the ability of banks to respond to unfolding events. Stress testing, when used effectively, can mitigate limitations associated with quantitative risk measurement approaches that are backward looking or based on limited data, and by focusing on the potential downside, can serve to limit procyclicality.

The BCBS' January 2009 *Principles for Sound Stress Testing Practices and Supervision* address the weaknesses in stress testing practices highlighted by the crisis, and present recommendations to strengthen the governance, design and implementation of stress testing programmes at banks. Supervisors should use the principles as a critical tool in their Pillar 2 assessments of bank capital adequacy. In particular, the stress testing framework should be used to assess the adequacy of banks' capital buffers above the regulatory minimum during periods of economic expansion, when financial market, credit and liquidity conditions appear benign, and when bank earnings are high. The BCBS will conduct an assessment of compliance with the principles once they have been finalised and implemented at banks.

5. Monitoring capital procyclicality

The BCBS should, on a continuing basis, monitor the impact of the Basel II framework and make appropriate adjustments to dampen excessive cyclicality of the minimum capital requirements. (*Recommendation 1.5*)

The BCBS is tracking the impact of the Basel II framework on the level and cyclicality of capital requirements through regular data collection by its Capital Monitoring Group. Data will be available on a six-month reporting cycle. Through this initiative, the BCBS should monitor the extent to which the capital regime reveals unacceptably high levels of capital cyclicality and take additional measures as appropriate.

In parallel with this monitoring effort, the BCBS should review mechanisms through which known channels of cyclicality in the minimum Pillar 1 capital requirement, such as migrations in credit scores, could be addressed. The BCBS' preliminary conclusion is to maintain the risk sensitivity of the inputs of the Basel II capital requirements and instead

focus on dampening the outputs. It is working to develop concrete proposals to mitigate any excessive impact of ratings migrations on regulatory capital requirements.

The BCBS should, on a continuing basis, carry out regular assessments of the risk coverage of the capital framework in relation to financial developments and banks' evolving risk profiles and make timely enhancements. (*Recommendation 1.6*)

A significant source of stress and procyclicality in the banking system and broader financial markets has been the failure to capture key risks in capital and risk management frameworks of major banking institutions. Once these risks became apparent to banks and market participants during the current period of stress, they revealed significant capital shortfalls at a number of banks, causing them to scale back their risk profiles thus further amplifying procyclicality in financial markets and lending behaviour. It is therefore critical that the risk coverage of the capital framework be improved.

The move to Basel II will help correct a number of the weaknesses of the Basel I capital framework revealed by the crisis. Among other things, these include a better treatment of off-balance sheet exposures and liquidity commitments, the introduction of a three pillar approach which can promote earlier intervention by supervisors, enhanced market transparency, the introduction of greater risk differentiation for on-balance sheet and securitisation exposures, explicit capital requirements for operational risk, and standards for more rigorous management of risk mitigation techniques. Moreover, the three pillars of Basel II, including IRB approach to decompose a risk exposure into its basic risk components (probability of default (PD), loss-given-default (LGD) and exposure at default (EAD)), should help make capital regulation more adaptable to periods of rapid innovation.

However, the crisis has revealed a number of areas where the framework should be strengthened to enhance the resilience of individual banks, the banking sector and the broader financial system to periods of stress. These areas are outlined in the BCBS' January 2009 package of proposals, which has been issued for public comment. In particular, they include:

- Raising capital requirements for resecuritisations under both the standardised and advanced approaches of the Basel II framework;
- Raising the standardised capital requirement for short-term liquidity lines to ABCP conduits to that of longer-term exposures to such vehicles, thus eliminating an arbitrage opportunity in the framework (as well as removing the zero percent risk weight for general market disruption lines); and
- Strengthening trading book capital requirements by requiring a stressed VaR add-on and introducing an incremental risk charge to capture default and migration risk for unsecuritised credit products. Moreover, securitisation exposures in the trading book would be subject to the capital charges of the banking book, reducing arbitrage opportunities between the two books.

Moreover, the BCBS should strengthen the Basel II framework in the following areas:

FINANCIAL STABILITY FORUM

- Improving the treatment of counterparty credit risk under the three pillars of the Basel II framework. This includes strengthening the level of capital for counterparty credit exposures and addressing any excess cyclicality in these capital requirements; and
- Reviewing the role of external ratings under Basel II and determining whether there are any adverse incentives that need to be addressed. This includes an assessment of any “cliff effects” which could cause regulatory capital requirements to rise significantly as a result of external ratings downgrades.

The BCBS should carry out regular assessments of the need for future enhancements to the framework to ensure that banks’ evolving risk profiles are captured in an appropriate manner.

IV. Recommendations on bank provisions⁵

The FSF will continue to foster constructive dialogue between regulators, supervisors and accounting standard setters on loan loss provisioning, from accounting, disclosure and capital perspectives.

1. Scope for judgement in existing standards

The FASB and IASB should issue a statement that reiterates for relevant regulators, financial institutions, and their auditors that existing standards require the use of judgement to determine an incurred loss for provisioning of loan losses. (*Recommendation 2.1*)

The FSF explored how judgement is used under existing accounting standards to recognise appropriate provisioning levels consistent with the credit losses that currently exist in the loan portfolio. The FSF reviewed the accounting requirements under the US and international frameworks to determine if there were differences in the requirements of those standards. The analysis prepared by the FSF, with concurrence of representatives of the FASB and IASB, concluded that the differences in the standards were minor even though the terminology differs in some respects. Additionally, based on internal deliberations and consultations with relevant groups, the FSF concluded that the current US GAAP and IFRS accounting requirements for loan loss provisioning are viewed by financial institutions, regulators, auditors, and investor groups as being essentially the same.

Given that accounting requirements for loan loss provisioning under US GAAP and IFRS are essentially the same, the FSF explored whether there are material differences in application of these requirements. The FSF held discussions with relevant regulators, auditors, financial institutions and investors on the current range of practice in the application of the accounting standards on loan loss provisioning. The discussions focused on the application differences between financial institutions applying the US GAAP and IFRS, as well as the range of practices that exist within those regimes. The FSF found anecdotal evidence of a wide range of practice used by financial institutions and accepted by auditors and regulators. Possible sources of the diversity in practice include: historical country practices, management biases, differing legal and tax requirements, influences of regulators and auditor practices. The wide range of practice was not perceived as a difference between US GAAP and IFRS, but rather, different application practices.

Judgement and reasonable estimates are required for appropriate recognition and measurement of provisioning for loan losses under both the current US GAAP and IFRS accounting requirements. Under the current accounting requirements, the method used to determine loan loss provisions should reasonably assure the timely recognition of existing

⁵ The numbering of the recommendations set forth in parenthesis in this chapter corresponds to the numbering in the overview chapter.

loan losses. While historical loss experience and recent economic conditions are a starting point for a financial institution's analysis, these factors are generally not, by themselves, a sufficient basis to determine the appropriate level for loan loss provisions. Management should also take into account any current factors that are likely to indicate that existing loan losses associated with the bank's loan portfolio differ from historical loss experience. Such factors could include changes in relevant economic and environmental trends, lending policies and procedures, and changes related to new loan segments and products.

The FSF believes that institutions that effectively use required judgement to incorporate the impact of changes in current factors (such as environmental indicators and relaxing underwriting standards) into the methodologies used to determine the provisioning for loan losses would likely recognise higher provisions earlier in the credit cycle than those that placed greater emphasis on historical loss experience. The FSF believes that improving the diligence used by all institutions to incorporate reasonable judgements regarding the impact of factors that are likely to cause loan losses to differ from historical levels may improve practice and help lessen procyclicality while enhancing the consistency of information provided to investors. Therefore, the FASB and IASB should issue a statement that reiterates the required use of judgement in incorporating the impact of factors that are likely to cause loan losses to differ from historical levels under existing requirements for the provisioning of loan losses. This statement should be developed and issued by end-2009.

2. Enhancements to loan loss provisioning standards

The FASB and IASB should reconsider the incurred loss model by analysing alternative approaches for recognising and measuring loan losses that incorporate a broader range of available credit information. The FSF recommends that the FASB and IASB establish a resource group to provide input on technical issues and complete this project on an expedited basis. (*Recommendation 2.2*)

In the context of the current crisis, the FSF discussed whether a different accounting model could have identified loan losses earlier in the credit cycle and effectively facilitated more through-the-cycle provisioning while providing the necessary transparency to users of the financial statements with respect to changes in credit trends. The FSF sought the input of auditors, financial institutions and investors on these issues and whether changes to the current standards should be considered to improve transparency of information provided to investors while also potentially helping lessen procyclicality. The FSF received a diverse set of comments, but concluded that there was a willingness to explore alternatives to the current incurred loss model.

The FSF believes that earlier recognition of loan losses could have potentially reduced procyclicality in the current crisis. The FASB and IASB (the "Boards") currently have a joint project to improve the recognition and measurement of financial instruments. The FSF believes loan loss provisioning requirements should be reconsidered as part of the Boards' joint project on financial instruments, and recommends that the Boards complete this project on an expedited basis while maintaining appropriate due process. Specifically, the Boards should consider whether changes to the loan loss accounting model could better reflect the

underlying economics of lending activities and capture credit impairment information earlier in the credit cycle.

Under the current accounting requirements of an incurred loss model, a provision for loan losses is recognised only when a loss impairment event or events have taken place that are likely to result in non-payment of a loan in the future. Identification of the loss event is a difficult and subjective process that results in a range of practice and, potentially, a failure to fully recognise existing credit losses earlier in the credit cycle. Earlier identification of credit losses is consistent both with providing financial statement users transparency into changes in credit trends and regulators with the prudential objectives of safety and soundness. Therefore, the FSF recommends that standard setters give due consideration to alternative approaches to recognising and measuring loan losses that incorporate a broader range of available credit information, including a fair value model, an expected loss model and dynamic provisioning. In addition, the current disclosures on loan loss provisioning should be assessed to determine adequacy and potential improvements on the information being provided. Moreover, any alternative to the current provisioning model must be assessed to determine whether it can be effectively implemented by preparers and whether it would provide better information than the existing requirement.

The Boards should establish a resource group comprised of investors, regulators, supervisors, auditors, preparers and industry representatives to evaluate related technical aspects of possible approaches that could be consistent with these objectives. The input received from the resource group should be considered by the Boards during the deliberations of the joint project on financial instruments.

3. Provisioning and Basel II

The BCBS should undertake a review of Basel II to reduce or eliminate disincentives for establishing appropriate provisions for loan losses. (*Recommendation 2.3*)

There are possible refinements to the Basel II framework that would reduce disincentives that may currently exist for banks to increase their level of provisions for loan losses. Two features of the Basel II framework are potentially significant disincentives for improved provisioning practices.

The first potential impediment is the manner in which provisions are included in the measure of a bank's regulatory capital. The BCBS should consider the allocation of general provisions in banks' regulatory capital.

The second impediment is the Basel II framework's constraint on the amount of provisions that may count as Tier 2 capital. The 1.25 percentage points and the 60 basis points constraints on the amounts of reserves that may be added to capital under the standardised and IRB approaches, respectively, may create a disincentive for banks whose level of provisions approach those thresholds. Therefore, the BCBS should examine whether the removal or modification of the caps that limit the amount of provisions that may count as capital is warranted.

Were the BCBS to make appropriate modifications to the Basel II framework, some banks would increase their loan loss provisioning levels. The BCBS is considering other broader modifications to the Basel II framework to increase the capital position of banks so that more capital is available to absorb losses.

More generally, the BCBS should assess the range of approaches that could be used to strengthen provisioning at banks. Moreover, the BCBS should assess how higher provisions would be reflected in regulatory frameworks, financial reporting (both balance sheet and profit and loss), and firms' risk management and incentive mechanisms. Such an analysis provides the context for determining whether higher provisions should primarily be achieved within financial reporting, through adjustments to the prudential framework or a combination of the two. The extent to which existing accounting standards act as a constraint on the preferred approach will be an important part of this analysis and this work should therefore be coordinated with accounting standard setters.

The BCBS should undertake a review of Basel II to assess the adequacy of disclosure of loan loss provisioning under Pillar 3. (*Recommendation 2.4*)

Pillar 3 of the Basel II framework recognises that market discipline has the potential to reinforce capital regulation and other supervisory efforts to promote the safety and soundness of banks and financial systems. Market discipline imposes strong incentives on banks to conduct their business in a safe, sound and efficient manner. It can also provide a bank with an incentive to maintain a strong capital base as a cushion against future losses arising from its risk exposures. Supervisors have a strong interest in facilitating effective market discipline as a lever to strengthen the safety and soundness of the banking system. The BCBS aims to encourage market discipline through their development of a disclosure framework that will allow market participants to assess key information on the scope of application, capital, risk exposures, risk assessment and management processes, and hence the capital adequacy of the institution.

In its efforts to explore aspects of loan loss provisioning, the FSF obtained feedback from various individuals that they seek improvements to the current information available on loan loss provisioning. Given the objectives of Pillar 3 of Basel II, relevant disclosures about loan loss provisioning would also be important in enhancing market discipline. Improving market discipline could also be helpful in mitigating diversity in practice, as well as helping lessen procyclicality. Therefore, the BCBS should undertake a review of Basel II to assess the adequacy of disclosure of loan loss provisioning under Pillar 3.

V. Recommendations on leverage and valuation⁶

1. Quantitative indicators and constraints on leverage

Authorities should use quantitative indicators and/or constraints on leverage and margins as macroprudential tools for supervisory purposes. (*Recommendation 3.1*)

Authorities should use quantitative indicators of leverage as guides for policy, both at the institution-specific and at the macroprudential (system-wide) level. On leverage ratios for banks, work by the BCBS to supplement the risk-based capital requirement with a simple, non-risk based measure is welcome (see Recommendation 1.3). (*Recommendation 3.1.1*)

Prior to the crisis, traditional balance sheet measures of leverage did not give an unambiguous signal of higher risk during the boom years of 2003–07. Nevertheless, a break in the trend in leverage occurred around 2003–04 as leverage and risk started to build up. This resulted from growing maturity mismatches and increased exposure to funding liquidity risk as some large financial institutions funded a growing amount of long-term assets with short-term liabilities in wholesale markets. The combination of leverage and maturity mismatches was at the root of the fragility of financial institutions.

In light of these findings, the FSF recommends the use of a leverage ratio as a vulnerability indicator and an instrument for supervisory and macroprudential policy with a view to limiting procyclicality. The FSF endorses work by the BCBS to use leverage ratios as a supplement to risk-based capital requirements. Leverage ratios should take due account of off-balance sheet exposures. Sector-level leverage ratios as a complement to the leverage ratios of individual institutions would be a useful indicator to support macroprudential monitoring of vulnerabilities in the financial sector. Hence, sectoral leverage ratios should be computed by national authorities for the main types of financial institutions to the extent they are of systemic importance.

In addition, supervisors should intensify oversight of maturity and liquidity mismatches, and, when thresholds for indicators of such mismatches are breached, should conduct additional supervisory checks. As the definition of maturity and liquidity mismatches at the systemic level is more complex due to the interlinkages across financial firms, the FSF proposes to engage in further study of this topic (see Recommendation 3.2).

As part of the efforts to reduce procyclicality via quantitative indicators, the BCBS work on longer-term VaR and the extensive use of stress tests is welcome (see Recommendation 1.2). In particular, the FSF endorses the BCBS plan to carry out a more fundamental review of the

⁶ The numbering of the recommendations set forth in parenthesis in this chapter corresponds to the numbering in the Overview chapter.

market risk framework, including the use of VaR over the longer term, to reduce the reliance on cyclical VaR-based capital estimates. The FSF also recommends the use of stress tests rather than VaR for new risks or products with limited historical data.

Authorities should review enforcing minimum initial margins and haircuts for OTC derivatives and securities financing transactions. (*Recommendation 3.1.2*)

Enforcing minimum initial margins for OTC derivatives and minimum haircuts or margins for securities financing transactions, as well as requiring such margins or haircuts to be relatively stable over the cycle, reduce the tendency for margining and collateral practices to create adverse feedback effects at times of market stress. These constraints have the benefit of being simple and of encouraging some restraint on leverage in both the regulated and unregulated financial sectors. However, drawbacks such as enforcement costs and scope for evasion call for further study to assess how such additional constraints may work in practice.

2. Measuring funding and liquidity risk

The BCBS and the CGFS should launch a joint research program to measure funding and liquidity risk attached to maturity transformation, enabling the pricing of liquidity risk in the financial system. (*Recommendation 3.2*)

Liquidity is highly procyclical, growing in good times and drying up in times of stress. In the run-up to the present crisis, banks and other financial institutions had an incentive to minimise the cost of holding liquidity. When the crisis hit, liquidity shortfalls, reflecting on- and off-balance sheet maturity mismatches and excessive levels of leverage, substantially complicated the response of financial institutions to worsening market conditions. As a result, liquidity provided by central banks has taken on an increasingly important role in the funding of bank balance sheets. As an immediate task, authorities – both supervisors in their monitoring of liquidity risks at banks and central banks in their design and implementation of market operations – need to work towards restoring the functioning of interbank lending markets in order to counter the transfer of funding liquidity risk by systemically important financial institutions to the public sector.

Going forward, the BCBS *Principles for Sound Liquidity Risk Management and Supervision* of September 2008 are expected to contribute to improvement in individual banks' management and supervision of liquidity risks. Complementing this work, authorities will need to develop tools and policies to address the procyclical behaviour of liquidity at the aggregate level. The FSF proposes that the BCBS and CGFS develop a joint research effort to address funding and liquidity risk, starting in 2009. A key component of this research agenda is to define robust measures of funding and liquidity risk, which could assist assessments of liquidity risk by the private sector. Stress tests to gauge the probability and magnitude of a liquidity crisis in different market environments will be considered in this light.

3. Data collection on leverage and maturity mismatches

Based on the conclusion of the above research program, the BIS and the IMF could make available to authorities information on leverage and on maturity mismatches on a system-wide basis. (*Recommendation 3.3*)

Following the completion of the research project under Recommendation 3.2, the FSF recommends that, on the basis of its findings, information be collected on leverage and maturity mismatches, on a coordinated international basis, including from off-balance sheet vehicles and money market funds. The BIS and IMF could jointly develop the conceptual framework for the data collection. Data could be collected by the BIS or the IMF.

4. Possible accounting enhancements

Accounting standard setters and prudential supervisors should examine the use of valuation reserves or adjustments for fair valued financial instruments when data or modelling needed to support their valuation is weak. (*Recommendation 3.4*)

Under IFRS, valuation adjustments currently include, for example, adjustments for model deficiencies highlighted through calibration of the model, liquidity adjustments and credit adjustments.

Standard setters and supervisors should explore whether firms should be required to hold valuation reserves or to otherwise adjust valuations to avoid overstatement of income when significant uncertainty about valuation exists. For actively traded assets, no such issue arises. However, for financial instruments that are not actively traded, insufficient market depth or reliance on valuation models using unobservable inputs that are difficult to verify may create considerable valuation uncertainty for certain instruments.

One solution could be to partially de-link the valuation process (in mark-to-market) from certain aspects of income and profit recognition when significant uncertainty exists. This would be the purpose of the valuation reserve or adjustment, which would act as a “filter”, for example by reducing the possibility that initial valuation overstatements might flow into income. The size of the reserve or adjustment could be based on the degree of uncertainty created by the weakness in the data or underlying modelling approach. Increases and decreases in the reserve or adjustment should be fully transparent. How to handle adjustments over the life of an instrument would have to be the subject of careful review and discussion by standard setters and prudential supervisors, in consultation with risk management and accounting experts.

Such valuation reserves or adjustments could be beneficial in limiting a firm’s ability to book profits initially and over time that are less “reliable” because they are based on weak valuations. Also, such valuation approaches could help to incentivise financial activity away from complex, hard-to-value financial instruments. However, unless carefully designed, the approach could migrate away from the principle of objective measurement (especially the use of fair value for traded instruments) that standard setters and supervisors have thought to be

relevant. In addition, unless subject to clear guidance and sound internal documentation by firms, it could be challenging for firms and their auditors to validate the size of the valuation reserves or adjustments. Furthermore, if only applied to regulated firms, any resulting requirements for regulated firms could encourage these risks to migrate outside the regulated sector. Standard setters and prudential supervisors should take account of these concerns as they explore the trade-offs associated with such a valuation reserve or adjustment approaches as part of financial reporting, prudential measures, or both.

Accounting standard setters and prudential supervisors should examine possible changes to relevant standards to dampen adverse dynamics potentially associated with fair value accounting. Possible ways to reduce this potential impact include the following:

- **Enhancing the accounting model so that the use of fair value accounting is carefully examined for financial instruments of credit intermediaries.**
- **Transfers between financial asset categories.**
- **Simplifying hedge accounting requirements.**

(Recommendation 3.5)

The extensive use of fair value accounting encouraged market practices that contributed to excessive risk-taking or risk-shedding activity in response to observed changes in asset prices. In the course of the present crisis, this mechanism became clear at times of adverse market dynamics, particularly as liquidity in financial markets evaporated. When the markets for many credit risk exposures became illiquid over 2007–08, credit spreads widened substantially as liquidity premia grew. Wider spreads drove down mark-to-market valuations on a range of assets. Some fair valued assets that became illiquid were marked down to match declines in traded derivative indices.

The extensive use of fair value accounting meant that, across the financial system, these declines in valuations translated into lower earnings or accumulated unrealised losses in the equity account for securities held for sale. Mark-to-market losses eroded banks' core capital, causing balance sheet leverage to rise. Banks sold assets in an attempt to offset this rise in balance sheet leverage and to address liquidity issues, but such sales only pushed credit spreads wider, causing more mark-to-market losses.

Possible ways to reduce this potential impact include the following:

- *Standard setters could consider enhancing the accounting model so that the use of fair value accounting is carefully examined for financial instruments of credit intermediaries.* The IASB and FASB have a joint project underway to consider how to best reduce the complexity associated with the accounting for financial instruments under the mixed attribute accounting model. It would be useful for standard setters to

FINANCIAL STABILITY FORUM

consider the concerns and objectives noted above as they develop their planned approach to financial instruments.⁷

- ***Transfers between financial asset categories.*** The IASB issued a new standard in the second half of 2008 that permits certain transfers between financial asset categories in rare situations (e.g., from the trading portfolio to loans or held-to-maturity assets reported at amortised cost) and requires disclosures about these transfers. US GAAP has similar rules. Standard setters could review these treatments based on the experiences during the financial crisis to determine whether further refinements may be appropriate, particularly to address periods of severe illiquidity, in a manner that would enhance transparency and not undermine market confidence.
- ***Simplifying hedge accounting requirements.*** The hedge accounting requirements in US GAAP and IFRS are very complex and require extensive documentation. This has led many institutions to not use hedge accounting techniques, but instead either report financial assets and related hedges in trading portfolios or use the fair value option, both of which are subject to fair value accounting. Simplifying the hedge accounting rules in a reasonable manner could encourage banks and other companies that manage risk to apply hedge accounting treatments instead of approaches subject to fair value accounting.⁸

These efforts from the accounting standard setters should be undertaken in cooperation with prudential supervisors, including the BCBS. The BCBS should consider the implications of standards setters' efforts on capital measures.

⁷ The FSF understands that standards setters intend to continue to require that derivatives be measured at fair value, and this recommendation is not seeking to change their position on this issue.

⁸ For ineffective hedges, such as those that might occur during periods of severe market illiquidity, hedge accounting may have a result similar to approaches subject to fair value accounting (e.g., fair value option) since hedge ineffectiveness is reported in profit and loss. However, unlike hedge accounting treatments, which can be de-designated, the fair value option is irrevocable. Thus, a balance sheet position subject to the fair value option must continue to be marked to market, which could result in exposure to further losses during periods of severe market stress and illiquidity.