

**Report of the Financial Stability Forum on
Enhancing Market and Institutional Resilience**

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FINANCIAL STABILITY FORUM

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Table of Contents

Foreword.....	1
Executive Summary	3
I. Underlying causes and weaknesses	5
1. Factors underlying the market turmoil	5
2. Underlying weaknesses	7
3. Underpinnings of the originate-to-distribute model	9
4. Areas for policy action	10
II. Strengthened prudential oversight of capital, liquidity and risk management	12
1. Capital requirements.....	12
2. Liquidity management.....	16
3. Supervisory oversight of risk management, including of off-balance sheet entities...	17
4. Operational infrastructure for over-the-counter derivatives.....	20
III. Enhancing transparency and valuation	22
1. Risk disclosures by market participants	22
2. Accounting and disclosure standards for off-balance sheet entities.....	25
3. Valuation	26
4. Transparency in securitisation processes and markets	30
IV. Changes in the role and uses of credit ratings.....	32
1. Quality of the rating process.....	32
2. Differentiated ratings and expanded information on structured products	34
3. CRA assessment of underlying data quality	36
4. Uses of ratings by investors and regulators.....	37
V. Strengthening the authorities' responsiveness to risks	40
1. Translating risk analysis into action	40
2. Improving information exchange and cooperation among authorities.....	41
3. Enhancing international bodies' policy work.....	43
VI. Robust arrangements for dealing with stress in the financial system.....	45
1. Central bank operations.....	45
2. Arrangements for dealing with weak banks	49

FINANCIAL STABILITY FORUM

Annexes

A: List of recommendations.....	53
B: Summary of leading practice disclosures for selected exposures	63
C: Members of the Working Group on Market and Institutional Resilience.....	67
D: List of reports.....	69
E: FSF member institutions	70

FOREWORD

In October 2007, the G7 Ministers and Central Bank Governors asked the Financial Stability Forum (FSF) to undertake an analysis of the causes and weaknesses that have produced the turmoil and to set out recommendations for increasing the resilience of markets and institutions going forward. The FSF was asked to report to the G7 Ministers and Governors at their meeting in Washington in April 2008.

The findings and recommendations in this report are the product of an intensive collaborative effort of the main international bodies and national authorities in key financial centres. They draw on a large body of coordinated work, comprising that of the Basel Committee on Banking Supervision (BCBS), the International Organization of Securities Commissions (IOSCO), the International Association of Insurance Supervisors (IAIS), the Joint Forum, the International Accounting Standards Board (IASB), the Committee on Payment and Settlement Systems (CPSS), the Committee on the Global Financial System (CGFS), the International Monetary Fund (IMF), the Bank for International Settlements (BIS) and national authorities in key financial centres. Insights have been gained, as well, from private sector market participants.

The turmoil that broke out in the summer of 2007 followed an exceptional boom in credit growth and leverage in the financial system. A long period of benign economic and financial conditions increased the amount of risk that borrowers and investors were willing to take on. Institutions responded, expanding the market for securitisation of credit risk and aggressively developing the originate-to-distribute model of financial intermediation. The system became increasingly dependent on originators' underwriting standards and the performance of credit rating agencies.

Starting in the summer of 2007, accumulating losses on US subprime mortgages triggered widespread disruption to the global financial system. Large losses were sustained on complex structured securities. Institutions reduced leverage and increased demand for liquid assets. Many credit markets became illiquid, hindering credit extension.

Eight months after the start of the market turmoil, the balance sheets of financial institutions are burdened by assets that have suffered major declines in value and vanishing market liquidity. Participants are reluctant to transact in these instruments, adding to increased financial and macroeconomic uncertainty.

To re-establish confidence in the soundness of markets and financial institutions, national authorities have taken exceptional steps with a view to facilitating adjustment and dampening the impact on the real economy. These have included monetary and fiscal stimulus, central bank liquidity operations, policies to promote asset market liquidity and actions to resolve problems at specific institutions. Financial institutions have taken steps to rebuild capital and liquidity cushions.

FINANCIAL STABILITY FORUM

Despite these measures, the financial system remains under stress. While national authorities may continue to consider short-term policy responses should conditions warrant it, to restore confidence in the soundness of markets and institutions, it is essential that we take steps now to enhance the resilience of the global system.

To this end, the FSF proposes concrete actions in the following five areas:

- Strengthened prudential oversight of capital, liquidity and risk management.
- Enhancing transparency and valuation.
- Changes in the role and uses of credit ratings.
- Strengthening the authorities' responsiveness to risks.
- Robust arrangements for dealing with stress in the financial system.

Policy development and private sector initiatives are underway in many of these areas. The FSF will facilitate coordination of these initiatives and oversee their timely implementation to preserve the advantages of integrated global financial markets and a level playing field across countries. We recognise the strains under which the system is currently operating and will pursue implementation in a way that avoids exacerbating stress in the short term.

An issue that requires further study is the forces that contribute to procyclicality in the financial system. We will examine the drivers of such procyclical behaviour and possible options for mitigating it. As in the areas covered by this report, the goal will be to strengthen the efficiency and resilience of the system, without hindering the processes of market discipline and innovation that are essential to the financial system's contribution to economic growth.

Executive Summary

Strengthened prudential oversight of capital, liquidity and risk management

Capital requirements:

Specific proposals will be issued in 2008 to:

- Raise Basel II capital requirements for certain complex structured credit products;
- Introduce additional capital charges for default and event risk in the trading books of banks and securities firms;
- Strengthen the capital treatment of liquidity facilities to off-balance sheet conduits.

Changes will be implemented over time to avoid exacerbating short-term stress.

Liquidity:

Supervisory guidance will be issued by July 2008 for the supervision and management of liquidity risks.

Oversight of risk management:

Guidance for supervisory reviews under Basel II will be developed that will:

- Strengthen oversight of banks' identification and management of firm-wide risks;
- Strengthen oversight of banks' stress testing practices for risk management and capital planning purposes;
- Require banks to soundly manage and report off-balance sheet exposures;

Supervisors will use Basel II to ensure banks' risk management, capital buffers and estimates of potential credit losses are appropriately forward looking.

Over-the-counter derivatives:

Authorities will encourage market participants to act promptly to ensure that the settlement, legal and operational infrastructure for over-the-counter derivatives is sound.

Enhancing transparency and valuation

Robust risk disclosures:

- The FSF strongly encourages financial institutions to make robust risk disclosures using the leading disclosure practices summarised in Recommendation III.1 of this report, at the time of their mid-year 2008 reports.
- Further guidance to strengthen disclosure requirements under Pillar 3 of Basel II will be issued by 2009.

FINANCIAL STABILITY FORUM

Standards for off-balance sheet vehicles and valuations:

Standard setters will take urgent action to:

- Improve and converge financial reporting standards for off-balance sheet vehicles;
- Develop guidance on valuations when markets are no longer active, establishing an expert advisory panel in 2008.

Transparency in structured products:

Market participants and securities regulators will expand the information provided about securitised products and their underlying assets.

Changes in the role and uses of credit ratings

Credit rating agencies should:

- Implement the revised IOSCO Code of Conduct Fundamentals for Credit Rating Agencies to manage conflicts of interest in rating structured products and improve the quality of the rating process;
- Differentiate ratings on structured credit products from those on bonds and expand the information they provide.

Regulators will review the roles given to ratings in regulations and prudential frameworks.

Strengthening the authorities' responsiveness to risks

- A college of supervisors will be put in place by end-2008 for each of the largest global financial institutions.

Robust arrangements for dealing with stress in the financial system

- Central banks will enhance their operational frameworks and authorities will strengthen their cooperation for dealing with stress.

I. Underlying Causes and Weaknesses

1. Factors underlying the market turmoil

The turmoil in the most advanced financial markets that started in the summer of 2007 was the culmination of an exceptional boom in credit growth and leverage in the financial system. This boom was fed by a long period of benign economic and financial conditions, including historically low real interest rates and abundant liquidity, which increased the amount of risk and leverage that borrowers, investors and intermediaries were willing to take on, and by a wave of financial innovation, which expanded the system's capacity to generate credit assets and leverage but outpaced its capacity to manage the associated risks.

As the global trend of low risk premia and low expectations of future volatility gathered pace from 2003, financial technology that produced the first collateralised debt obligations (CDOs) a decade earlier was extended on a dramatic scale. The pooling and tranching of credit assets generated complex structured products that appeared to meet the credit rating agencies' (CRAs') criteria for high ratings. Credit enhancements by financial guarantors contributed further to the perception of unlimited high-quality investment opportunities. The growth of the credit default swap market and related index markets made credit risk easier to trade and to hedge. This greatly increased the perceived liquidity of credit instruments. The easy availability of credit and rising asset prices contributed to low default rates, which reinforced the low level of credit risk premia.

Banks and other financial institutions gave substantial impetus to this process by establishing off-balance sheet funding and investment vehicles, which in many cases invested in highly rated structured credit products, in turn often largely backed by mortgage-backed securities (MBSs). These vehicles, which benefited from regulatory and accounting incentives, operated without capital buffers, with significant liquidity and maturity mismatches and with asset compositions that were often misunderstood by investors in them. Both the banks themselves and those that rated the vehicles misjudged the liquidity and concentration risks that a deterioration in general economic conditions would pose. Banks also misjudged the risks that were created by their explicit and implicit commitments to these vehicles, including the reputational risks arising from the sponsorship of the vehicles.

The demand for high-yielding assets and low default rates also encouraged a loosening of credit standards, most glaringly in the US subprime mortgage market, but more broadly in standards and terms of loans to households and businesses, including loans for buy-outs by private equity firms. Here too, banks, investors and CRAs misjudged the level of risks, particularly these instruments' common exposure to broad factors such as a weakening housing market or a fall in the market liquidity of high-yield corporate debt.

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Worsening underwriting standards for subprime mortgages and a weakening in the US housing market led to a steady rise in delinquencies and, from early 2007 onwards, sharply falling prices for indices based on subprime-related assets. This produced losses and margin calls for leveraged holders of highly rated products backed by subprime mortgages. The problems in the subprime market provided the trigger for a broad reversal in market risk-taking. As CRAs made multiple-level downgrades of subprime-backed structured products, investors lost confidence in the ratings of a wider range of structured assets and, in August 2007, money-market investors in asset-backed commercial paper (ABCP) refused to roll over investments in bank-sponsored conduits and structured investment vehicles (SIVs) backed by structured products.

As sponsoring banks moved to fund liquidity commitments to ABCP conduits and SIVs, they sought to build up liquid resources and became unwilling to provide term liquidity to others. This led to a severe contraction of activity in the term interbank market and a substantial rise in term premia, especially in the US and Europe, and dysfunction in a number of related short-term financial markets.

Just as low risk premia, low funding costs and ample leverage had fuelled the earlier increase in credit and liquidity, the sharp reduction of funding availability and leverage accentuated the subsequent contraction. Fears of fire sales reinforced upward pressures on credit spreads and generated valuation losses in broad asset classes across the quality spectrum in many countries. When primary and secondary market liquidity for structured credit products evaporated, major banks faced increasing challenges valuing their own holdings and became less confident in their assessments of the credit risk exposures and capital strength of others. The disruption to funding markets lasted longer than many banks' contingency plans had allowed for.

As the turmoil spread, increased risk aversion, reduced liquidity, market uncertainty about the soundness of major financial institutions, questions about the quality of structured credit products, and uncertainty about the macroeconomic outlook fed on each other. New issuance in securitisation markets fell sharply. As large banks reabsorbed assets and sustained large valuation losses, their balance sheets swelled and their capital cushions shrank. This caused banks to tighten lending conditions. Both bank-based and capital-market channels of credit intermediation slowed.

At present, eight months after the turmoil broke out, de-leveraging continues to pose significant challenges for large parts of the financial system in a number of countries. Although some financial institutions and guarantors have moved to replenish capital, the system is burdened by market uncertainties about the health of key financial institutions, about the large overhang of assets held by banks, SIVs, hedge funds and other leveraged entities, and about the quality of those assets. Financial system weaknesses have contributed to deteriorating prospects for the real economy, although to different degrees in different countries.

2. Underlying weaknesses

Given the maturing of the credit cycle and the weakening in the US housing market, a pullback in risk-taking of some kind was inevitable. However, because of accumulated weaknesses in risk management and underwriting standards, and the sheer scale of the adjustment required, attempts by individual institutions to contain their risk exposures have led to reinforcing dynamics in the system as a whole.

Poor underwriting standards

The benign macroeconomic conditions gave rise to complacency among many market participants and led to an erosion of sound practices in important financial market segments. In a range of credit market segments, business volume grew much more quickly than did investments in the supporting infrastructure of controls and documentation. Misaligned incentives were most conspicuous in the poor underwriting and in some cases fraudulent practices that proliferated in the US subprime mortgage sector, especially from late 2004. Many of the subprime loans underwritten during this time had multiple weaknesses: less creditworthy borrowers, high cumulative loan-to-value ratios, and limited or no verification of the borrower's income. The combination of weak incentives, an increasingly competitive environment, low interest rates and rapidly rising house prices led originators and mortgage brokers to lower underwriting standards and to offer products to borrowers who often could not afford them or could not bear the associated risks. Weak government oversight of these entities contributed to the rise in unsound underwriting practices, especially by mortgage companies not affiliated with banks. Another segment that saw rapid growth in volume accompanied by a decline in standards was the corporate leveraged loan market, where lenders agreed to weakened loan covenants to obtain the business of private equity funds.

Shortcomings in firms' risk management practices

Some of the standard risk management tools used by financial firms are not suited to estimating the scale of potential losses in the adverse tail of risk distributions for structured credit products. The absence of a history of returns and correlations, and the complexity in many of these products, created high uncertainty around value-at-risk and scenario-based estimates. Market participants severely underestimated default risks, concentration risks, market risks and liquidity risks, particularly for super-senior tranches of structured products. A number of banks had weak controls over balance sheet growth and over off-balance sheet risks, as well as inadequate communication and aggregation across business lines and functions. Some firms retained large exposures to super-senior tranches of CDOs that far exceeded the firms' understanding of the risks inherent in such instruments, and failed to take appropriate steps to control or mitigate those risks. When the turbulence started, firms and investors misjudged or were unable to rapidly assess their exposures, particularly as liquidity evaporated and markets became unavailable.

FINANCIAL STABILITY FORUM

Poor investor due diligence

In parallel, many investors, including institutional ones with the capacity to undertake their own credit analysis, did not sufficiently examine the assets underlying structured investments. They overlooked leverage and tail risks and did not question the source of high promised yields on purportedly safe assets. These weak due diligence practices further fuelled the issuance of complex structured credit products. Many investors placed excessive reliance on credit ratings, neither questioning CRAs' methodologies nor fully understanding the information credit ratings do and do not transmit about the risk characteristics of rated products.

Poor performance by the CRAs in respect of structured credit products

The sources of concerns about CRAs' performance included: weaknesses in rating models and methodologies; inadequate due diligence of the quality of the collateral pools underlying rated securities; insufficient transparency about the assumptions, criteria and methodologies used in rating structured products; insufficient information provision about the meaning and risk characteristics of structured finance ratings; and insufficient attention to conflicts of interest in the rating process.

Incentive distortions

The shortcomings in risk management, risk assessment and underwriting standards reflected a variety of incentive distortions:

- Originators, arrangers, distributors and managers in the originate-to-distribute (OTD) chain had insufficient incentives to generate and provide initial and ongoing information on the quality and performance of underlying assets. High demand by investors for securitised products weakened the incentives of underwriters and sponsors to maintain adequate underwriting standards.
- The pre-Basel II capital framework encouraged banks to securitise assets through instruments with low capital charges (such as 364-day liquidity facilities).
- Compensation schemes in financial institutions encouraged disproportionate risk-taking with insufficient regard to longer-term risks. This risk-taking was not always subject to adequate checks and balances in firms' risk management systems.

Weaknesses in disclosure

Weaknesses in public disclosures by financial institutions have damaged market confidence during the turmoil. Public disclosures that were required of financial institutions did not always make clear the type and magnitude of risks associated with their on- and off-balance sheet exposures. There were also shortcomings in the other information firms provided about market and credit risk exposures, particularly as these related to structured products. Where information was disclosed, it was often not done in an easily accessible or usable way.

Feedback effects between valuation and risk-taking

The turbulence revealed the potential for adverse interactions between high leverage, market liquidity, valuation losses and financial institutions' capital. For example, writedowns of assets for which markets were thin or buyers were lacking raised questions about the adequacy of capital buffers, leading to asset sales, deleveraging and further pressure on asset prices.

Weaknesses in regulatory frameworks and other policies

Public authorities recognised some of the underlying vulnerabilities in the financial sector but failed to take effective countervailing action, partly because they may have overestimated the strength and resilience of the financial system. Limitations in regulatory arrangements, such as those related to the pre-Basel II framework, contributed to the growth of unregulated exposures, excessive risk-taking and weak liquidity risk management.

3. Underpinnings of the originate-to-distribute model

Although securitisation markets and the OTD model of intermediation have functioned well over many years, recent innovations greatly increased leverage and complexity and, as noted above, were accompanied by a reduction in credit standards for some asset classes.

When accompanied by adequate risk management and incentives, the OTD model offers a number of benefits to loan originators, investors and borrowers. Originators can benefit from greater capital efficiency, enhanced funding availability, and lower earnings volatility since the OTD model disperses credit and interest rate risks to the capital markets. Investors can benefit from a greater choice of investments, allowing them to diversify and to match their investment profile more closely to their risk preferences. Borrowers can benefit from expanded credit availability and product choice, as well as lower borrowing costs.

However, these features of the OTD model progressively weakened in the years preceding the outburst of the turmoil. Aside from weakened underwriting standards, in some cases, risks that had been expected to be broadly dispersed turned out to have been concentrated in entities unable to bear them. For example:

- Some assets went into conduits and SIVs with substantial leverage and significant maturity and liquidity risk, making them vulnerable to a classic type of run.
- Banks ended up with significant direct and indirect exposure to many of these vehicles to which risk had apparently been transferred, through contingent credit lines, reputational links, revenue risks and counterparty credit exposures.
- Financial institutions adopted a business model that assumed substantial ongoing access to funding liquidity and asset market liquidity to support the securitisation process.

FINANCIAL STABILITY FORUM

- Firms that pursued a strategy of actively packaging and selling their originated credit exposures retained increasingly large pipelines of these exposures, without adequately measuring and managing the risks that materialised when they could not be sold.

Although all market participants involved in the OTD chain had weaknesses in risk management, and nearly all ultimately needed to write down their structured product portfolios substantially, some firms seem to have handled these challenges better than others. This suggests that it is not the OTD model or securitisation per se that are problematic. Rather, these problems, and the underlying weaknesses that gave rise to them, show that the underpinnings of the OTD model need to be strengthened.

Among the issues that need to be addressed are:

- Misaligned incentives along the securitisation chain. As described earlier, these existed at originators, arrangers, managers, distributors and CRAs, while investor oversight of these participants was weakened by complacency and the complexity of the instruments.
- Lack of transparency about the risks underlying securitised products, in particular including the quality and potential correlations of the underlying assets.
- Poor management of the risks associated with the securitisation business, such as market, liquidity, concentration and pipeline risks, including insufficient stress testing of these risks.
- The usefulness and transparency of credit ratings. Despite their central role in the OTD model, CRAs did not adequately review the data input underlying securitised transactions. This hindered investors in applying market discipline in the OTD model.

4. Areas for policy action

A striking aspect of the turmoil has been the extent of risk management weaknesses and failings at regulated and sophisticated firms. While it is the responsibility of firms' boards and senior management to manage the risk they bear, supervisors and regulators can give incentives to management so that risk control frameworks keep pace with the innovation and changes in business models. Supervisors must set capital and liquidity buffers at levels that take account of the potential for risk management failures to occur and that limit damage to markets and the financial system when they occur.

Authorities should not pre-empt or hinder market-driven adjustments, but should monitor them and add discipline where needed. In many areas, financial institutions, investors and CRAs have strong incentives to address the market weaknesses that have come to light. Financial industry efforts are underway to improve market practices. However, authorities must decide where prescription is necessary, given collective action problems and other market failures. In several areas, corrective regulatory steps are underway: for example, US authorities are addressing regulatory gaps in the oversight of entities that

FINANCIAL STABILITY FORUM

originate and fund mortgages, and consumer protection issues in relation to mortgage lending.

Authorities must be proactive in strengthening the financial system. They must do all they can to identify emerging problems so as to be able to take prompt appropriate action to mitigate them. Given the difficulty in foreseeing and preventing specific threats to the financial system, a major focus of efforts must be to ensure that the core of the system is resilient when markets come under stress.

Building on its analysis of the underlying causes and weaknesses described above, the FSF has formulated specific recommendations to enhance market and institutional resilience going forward. These detailed recommendations are set out in the remainder of this report and are numbered, bolded and italicised within each chapter. The FSF will also review their implementation, according to the timelines listed in Annex A.

II. Strengthened prudential oversight of capital, liquidity and risk management

The market turmoil has revealed weaknesses in risk management at the banks and securities firms at the core of the global financial system, and in the system of incentives that regulators and supervisors provide through capital and liquidity requirements and oversight.

The management of risk is the responsibility of firms' boards and senior management. Firms must address with urgency the significant weaknesses that have come to light. Basel II provides the appropriate framework for supervisors to incentivise and monitor this process. But, to improve resilience, further improvements to Basel II and strengthened supervisory liquidity guidelines are needed.

It is especially important to strengthen the prudential framework for securitisation and off-balance sheet activities. This requires action by market participants to better manage risks, as well as by supervisory and regulatory authorities to better align incentives, reduce regulatory arbitrage and strengthen market discipline for structured products and for financial institutions' off-balance sheet activities. Moreover, initiatives are required to make the operational infrastructure for over-the-counter (OTC) derivatives more robust.

The chapter contains recommendations on:

- Capital requirements;
- Liquidity management;
- Supervisory oversight of risk management, including of off-balance sheet entities; and
- Operational infrastructure for OTC derivatives.

1. Capital requirements

The Basel II capital framework needs timely implementation. Supervisors will assess the impact of the implementation.

II.1 The Basel II capital framework needs timely implementation.

The need to strengthen elements of Basel II has become evident in the light of recent events, as set out below. But the starting point for improving major banks' and securities firms' capital adequacy is the timely implementation of Basel II.

The build-up to and unfolding of the financial turmoil has occurred under the Basel I capital framework and highlighted many of its significant shortcomings, including its lack of risk sensitivity and its inflexibility to rapid innovation. Basel I created perverse

regulatory incentives to move exposures off the balance sheet and did not fully capture important elements of banks' risk exposures within the capital adequacy calculation.

Basel II, by contrast, provides better support to sound risk management practices by much more closely aligning minimum capital requirements with the risks banks face (Pillar 1), by strengthening supervisory review of bank practices (Pillar 2) and by encouraging improved market disclosure (Pillar 3). Pillar 1 subjects on- and off-balance sheet exposures to regulatory capital requirements and reinforces sound credit risk management practices by enhancing risk sensitivity. It is designed with the flexibility needed to address the risks arising from financial innovation. Its securitisation framework aims to eliminate regulatory capital arbitrage incentives for moving exposures off the balance sheet or distributing them through the securitisation process. Pillar 2 provides supervisors with the tools to assess banks' risk management and internal capital management processes and, in a more proactive manner, to promote capital buffers above the minimum as appropriate. Pillar 3 enhances the quality and consistency of disclosures about banks' risk exposures and capital adequacy.

II.2 Supervisors will assess the impact of Basel II implementation on banks' capital levels and will decide whether additional capital buffers are needed.

It is important for supervisors to closely monitor the operation of Basel II and its effect on capital levels and on banks' behaviour more generally. While Basel II sets minimum capital requirements on an international basis, national supervisors are free to complement the Basel II framework in ways that set higher minimum requirements in their own jurisdictions. As more evidence from Basel II's implementation becomes available, supervisors should determine whether there is a need for additional capital buffers or, as appropriate in national contexts, supplementary measures of capital strength as a complement to risk-based capital measures. Supervisors should share experiences of developing and using such measures.

Supervisors will strengthen the Basel II capital treatment of structured credit and securitisation activities.

Supervisors, working through the BCBS, will enhance the regulatory capital treatment of structured credit and off-balance sheet activities. Changes will be implemented over time, being sensitive to the need to put the system on a long-term sound footing without exacerbating short-term stress.

Minimum capital requirements (Pillar 1)

II.3 The BCBS will issue proposals in 2008 to raise capital requirements for certain complex structured credit products such as CDOs of asset-backed securities (ABSs).

The most serious risk management shortcomings and losses at major financial institutions related to structured credit securitisations. This was particularly so for re-securitisations of debt, i.e., CDOs of ABSs, which pooled and re-tranched already securitised debt. These structures had heightened exposure to systematic risk. In the interest of garnering fee income from selling equity and mezzanine tranches of these instruments, structuring firms retained a large quantity of the highly-rated tranches. In many cases, the complexity of these products led both the firms and CRAs to underestimate the associated risks, and banks to hold inadequate capital to back them. The BCBS will therefore raise the minimum capital requirements for highly rated CDOs of ABSs to reflect their higher default sensitivity to changes in macroeconomic conditions relative to highly rated ABSs of untranching underlying exposures.

II.4 The BCBS and IOSCO will issue proposals in 2008 to introduce additional capital requirements for credit exposures in the banks' and securities firms' trading books.

A large proportion of structured credit products are held in banks' and securities firms' trading books, where capital requirements reflect market risk. Basel II as currently designed only explicitly captures the default risk that is in the banking book. Where market risk capital measures do not fully capture the credit risk of these products, there is a regulatory arbitrage incentive to reduce capital requirements by holding such exposures in the trading book. The BCBS and IOSCO will therefore introduce an additional capital charge that more fully captures both the default and event risk of credit risk exposures held in the trading book. This will better cover the risk of credit losses on structured credit products.

II.5 The BCBS will issue proposals in 2008 to strengthen the capital treatment for banks' liquidity facilities to off-balance sheet ABCP conduits.

Banks incurred significant losses through poor management of off-balance sheet vehicles they sponsored as part of the structured credit securitisation process. The creation of such vehicles obscured the risks that banks faced. Basel II, unlike Basel I, requires banks to set aside capital to support liquidity commitments to such vehicles, but treats these commitments as senior exposures, with lower capital requirements for short maturities. The BCBS will therefore strengthen the capital treatment for banks' liquidity facilities to off-balance sheet ABCP conduits to further reduce such regulatory arbitrage incentives.

Supervisors will continue to update the risk parameters and other provisions of the Basel II framework as needed.

II.6 Supervisors will continue to update the risk parameters and other provisions of the Basel II framework to ensure that its incentives remain adequate, and will rigorously assess banks' compliance with the framework.

Going forward, supervisors need to continue to track the implementation of Basel II, and the BCBS should update the risk parameters and other provisions of the Basel II framework as appropriate to ensure that its incentives remain adequate as financial markets change and new financial products are created. National supervisors will rigorously assess banks' compliance with the framework's provisions.

II.7 Supervisors will assess the cyclical nature of the Basel II framework and take additional measures as appropriate.

The BCBS has put in place a data collection framework to monitor Basel II's impact on the level and cyclical nature of the capital requirements over time and across member countries. The BCBS will analyse the data, which will first become available at the end of 2008, to consider the implications for capital levels and the balance between risk sensitivity and cyclical nature, and will share its analysis with the FSF. Based on this analysis and other factors, the BCBS will take further action, including updating of risk parameters and calibration of the framework, as appropriate.

Authorities should ensure that the capital buffers for monoline insurers and financial guarantors are commensurate with their role in the financial system.

II.8 Insurance supervisors should strengthen the regulatory and capital framework for monoline insurers in relation to structured credit.

Large amounts of credit risk transfer have been predicated on the AAA guarantees and enhancements provided by monoline insurers and financial guarantors. The declining credit quality of the instruments that they had guaranteed threatened the loss of the monolines' and guarantors' AAA status and added to dislocations in capital markets.

In view of monoline insurers' and financial guarantors' importance to the system, supervisors should strengthen their capital and other regulatory arrangements, to ensure that they are appropriate from a prudential point of view, do not encourage regulatory arbitrage and are sufficient to avoid market dislocations. Such changes should promote a reduction in the risks of these highly leveraged institutions. The IAIS is developing a set of principles-based solvency standards covering risk management, capital requirements and internal models allowing supervisory flexibility to respond effectively to different types of market circumstances. Other supervisors will strengthen guidance for regulated firms doing business with monolines and guarantors, including as part of the management of counterparty and concentration risk.

2. Liquidity management

Supervisors will issue for consultation sound practice guidance on the management and supervision of liquidity by July 2008.

II.9 The BCBS will issue for consultation sound practice guidance on the management and supervision of liquidity by July 2008.

It will cover the following areas:

- *the identification and measurement of the full range of liquidity risks, including contingent liquidity risk associated with off-balance sheet vehicles;*
- *stress tests, including greater emphasis on market-wide stresses and the linkage of stress tests to contingency funding plans;*
- *the role of supervisors, including communication and cooperation between supervisors, in strengthening liquidity risk management practices;*
- *the management of intra-day liquidity risks arising from payment and settlement obligations both domestically and across borders;*
- *cross-border flows and the management of foreign currency liquidity risk; and*
- *the role of disclosure and market discipline in promoting improved liquidity risk management practices.*

II.10 National supervisors should closely check banks' implementation of the updated guidance as part of their regular supervision. If banks' implementation of the guidance is inadequate, supervisors will take more prescriptive action to improve practices.

II.11 Supervisors and central banks will examine the scope for additional steps to promote more robust and internationally consistent liquidity approaches for cross-border banks. This will include the scope for more convergence around liquidity supervision as well as central bank liquidity operations.

The turmoil demonstrated the central importance that effective liquidity risk management practices and high liquidity buffers play in maintaining institutional and systemic resilience in the face of shocks. During the turmoil, it became apparent that financial institutions' funding arrangements often had not planned for sustained system-wide stress in funding markets, and did not address the links between funding, market liquidity and credit risk.

As a result, many banks and other financial firms were vulnerable to a prolonged disruption in market and funding liquidity. Financial institutions had not anticipated the need to fund contractual commitments backstopping a range of off-balance sheet financing vehicles, such as ABCP conduits and SIVs. In some cases, firms chose to

support off-balance sheet and other financial vehicles not because they were contractually obligated to do so, but to protect their reputations and future business prospects. Banks needed to fund warehoused portfolios for significantly longer than anticipated when securitisation markets closed. They also needed to fund leveraged loan commitments that they could not cancel because there were no material adverse change clauses in the lending covenants.

The contraction of liquidity and interbank markets led to severe funding liquidity strains for many banks, disruptions to money markets and sustained central bank intervention.

3. Supervisory oversight of risk management, including of off-balance sheet entities

Supervisors will use Pillar 2 to strengthen banks' risk management practices, to sharpen banks' control of tail risks and mitigate the build-up of excessive exposures and risk concentrations.

The current market turmoil has highlighted significant differences in specific risk management practices among even the largest and most sophisticated firms. These differences in practices have been associated with how well those firms have weathered the period of turmoil to date.¹ Firms' boards and senior management must strengthen risk management practices according to the lessons they have learned.

Supervisors for their part will act to monitor the progress of banks and securities firms in strengthening risk management and capital planning practices. Supervisors are committing considerable resources in the near term to strengthen risk management practices at individual financial institutions where major weaknesses were identified.

II.12 National supervisors will use the flexibility within Basel II to ensure that risk management, capital buffers and estimates of potential credit losses are appropriately forward-looking and take account of uncertainties associated with models, valuations and concentration risks and expected variations through the cycle. National supervisors will report to the BCBS with a view to ensuring a level playing field and the BCBS will share its findings and actions with the FSF.

The turmoil has highlighted the risk of model error in risk calculations. It has emphasised the importance of using multiple risk-measurement tools and stress tests, blending

¹ Supervisors of major financial institutions in France, Germany, Switzerland, the United Kingdom and the United States have set out in more detail the risk management practices that have differentiated those firms that have dealt more successfully to date with the turmoil from those that have suffered more problems. See the report, "Observations on Risk Management Practices during the Recent Market Turbulence", Senior Supervisors Group, March 6, 2008.

quantitative rigour with qualitative assessments. Use of a wide range of risk measures helps in the adjustment to new market circumstances and in the understanding of the limitations of individual risk measures.

National supervisors will strengthen their assessments of the robustness of banks' stress testing practices and capital cushions over the cycle. Supervisors need to ensure that firms appropriately assess their own capital adequacy based on the risks that may emerge over the full credit cycle, taking account of current and future economic and credit conditions, and the uncertainty that attaches to valuations.

Supervisory review (Pillar 2)

The BCBS will issue further Pillar 2 guidance over the course of 2008 and 2009 in a number of areas, as described below. Individual jurisdictions will also issue strengthened guidance on these issues and will assess whether the financial institutions they supervise make changes in risk management practices and integrate their risk assessments into overall decision-making processes and controls.

II.13 Supervisors will strengthen guidance relating to the management of firm-wide risks, including concentration risks.

The turmoil has exposed significant differences between firms in their ability to effectively identify, aggregate and analyse risks on a firm-wide basis. In this respect, the timing and quality of information flows both up to senior management and across the different businesses of the firm are important. Firms that shared information effectively benefited by being able to plan up to a year ahead of the turmoil to reduce identified risks. Supervisors will set out Pillar 2 guidance to strengthen firm-wide risk management.

One of the weaknesses exposed by the turmoil has been the overexposure of market participants to individual market sectors, the most extreme being to the US subprime market. Supervisors should therefore strengthen guidance for firm-wide management of concentration risks not only to individual borrowers but to overall sectors, to geographic regions, to economic risk factors, to counterparties and to financial guarantors. The guidance should take account of both direct and indirect exposures and the potential for exposures in related areas to become more correlated at times of market strain.

II.14 Supervisors will strengthen stress testing guidance for risk management and capital planning purposes.

Many firms' stress testing practices failed to anticipate the range and severity of impacts that recent market events have posed. These firms' stress testing procedures either did not assume sufficiently severe scenarios or, when they did, were not acted upon by senior management. Their stress tests did not integrate risk exposures across business lines.

Building on industry best practices, the BCBS will develop guidance for use under Pillar 2 to assess banks' stress testing practices. Moreover, the BCBS will review supervisors' implementation of Basel II's requirement that banks perform stress testing as a way to

assess their capital adequacy and capital cushions through the business cycle. Based on this analysis, it will assess the need for additional Pillar 2 guidance in this area.

II.15 Supervisory guidance will require banks to manage off-balance sheet exposures appropriately. Supervisors will require that:

- *prudential reports by financial institutions adequately include the risks arising from off-balance sheet exposures;*
- *financial institutions' internal management information systems capture off-balance sheet exposures, so that these form part of firms' internal capital and liquidity management;*
- *financial institutions' stress testing procedures take account of their exposures to off-balance sheet entities, including the risk that they might need to be absorbed on the institution's balance sheet, whether for contractual or non-contractual (e.g. reputational) reasons.*

By implementing the Basel II framework and incorporating the changes described above, supervisors will substantially reduce the incentives that motivated banks to generate and hold large off-balance sheet risk exposures.

Many banks did not adequately measure or understand their contractual and non-contractual off-balance sheet exposures to entities such as conduits and SIVs. Supervisors should require that this information be internally presented to firm's senior management in a timely and useful manner, and that firms have procedures in place to manage these exposures and any related concentrated risks.

Going forward, supervisors, through the BCBS, will take action as needed to mitigate any further regulatory arbitrage incentives to remove assets and liabilities from the balance sheet that are identified as arising from Basel II or accounting standards.

II.16 Supervisors will issue guidance to strengthen risk management relating to the securitisation business.

Supervisors will issue Pillar 2 guidance on risk management relating to securitisation and other aspects of credit risk transfer. This will further incentivise firms to conduct their own analysis of the credit and other risks of structured products and to avoid overreliance on CRAs. The guidance will include the management of pipeline and other risks relating to the CDO structuring, warehousing and trading businesses, and relating to the syndication of leveraged financing loans.

II.17 Supervisors will strengthen their existing guidance on the management of exposures to leveraged counterparties.

Recent events have demonstrated the importance of disciplined management of counterparty credit exposures. Existing national supervisory guidance on counterparty exposures to hedge funds needs to be extended to exposures to other large, highly

leveraged counterparties, including other financial institutions and financial guarantors. Counterparty credit exposures to firms providing hedges or guarantees need to take account of the potential correlation of the creditworthiness of those counterparties with the risks of the assets being hedged, particularly in difficult market conditions.

Relevant regulators should strengthen the requirements for institutional investors' processes for investment in structured products.

II.18 Regulators of institutional investors should strengthen the requirements or best practices for firms' processes for investment in structured products.

Where institutional investors market products or services to retail investors and customers, or otherwise participate in the public markets, securities regulators typically require these firms to have in place strong internal controls and risk management practices to protect both the financial integrity of firms and client assets. However, many institutional investors seem to have had insufficient understanding of the risks of structured products in which they invested. Relevant regulators should strengthen the requirements or guidelines for institutional investors to conduct adequate due diligence before investing in structured products and for investors to form their own view of the risks of the instruments in their portfolios.

The financial industry should align compensation models with long-term, firm-wide profitability. Regulators and supervisors should work with market participants to mitigate the risks arising from inappropriate incentive structures.

II.19 Regulators and supervisors should work with market participants to mitigate the risks arising from remuneration policies.

One of the striking features of recent events has been firms' sizeable payouts to staff in areas in which the firms have subsequently incurred very large losses as risks materialised. Compensation arrangements often encouraged disproportionate risk-taking with insufficient regard to longer-term risks. This problem can be mitigated if firms closely relate the incentives in their compensation model to long-term, firm-wide profitability. In addition, regulators and supervisors will work with market participants to identify means by which risk management policies and controls can mitigate risks associated with these incentives.

4. Operational infrastructure for OTC derivatives

Market participants should act promptly to ensure that the settlement, legal and operational infrastructure underlying OTC derivatives markets is sound.

II.20 Market participants should amend standard credit derivative trade documentation to provide for cash settlement of obligations stemming from a credit event, in accordance with the terms of the cash settlement protocol that has been developed, but not yet incorporated into standard documentation.

Although the industry has developed a “cash settlement protocol” that can obviate the need for purchasers of credit protection to physically deliver obligations of the reference entity following a default or other credit event, standard industry trade documentation still requires physical settlement. Until the protocol is incorporated into standard industry documentation, there is a risk of significant market disruptions if one or more major market participants choose not to adopt the protocol for a credit event. Of particular concern is the market impact such choices could have if several credit events were to occur simultaneously. Market participants therefore need to rapidly complete work to verify that the protocol is internationally applicable and then amend the standard documentation.

More generally, market participants should also be aware of the potential for credit derivatives and securitised products (e.g. collateralised loan obligations) to affect the dynamics of corporate workouts, especially for out-of-court restructurings.

II.21 Market participants should automate trade novations and set rigorous standards for the accuracy and timeliness of trade data submissions and the timeliness of resolutions of trade matching errors for OTC derivatives.

During the turmoil, spikes in credit derivatives trades resulted in substantial increases in backlogs of unconfirmed trades throughout the industry. Despite the significant progress that the industry has made in automating the infrastructure of the OTC derivatives markets during the last two years, the industry has not achieved a “steady state” in which spikes in trading volume do not lead to operational problems.

II.22 The financial industry should develop a longer-term plan for a reliable operational infrastructure supporting OTC derivatives.

Although the OTC derivatives markets’ infrastructure has coped quite well during the turmoil, an integrated operational infrastructure would bolster reliability and robustness. Such an infrastructure should: (a) capture all significant processing events over the entire lifecycle of trades; (b) deliver operational reliability and scalability; (c) maximise the efficiencies obtainable from automation by promoting standardisation and interoperability of infrastructure components; (d) enhance participants’ ability to manage counterparty risk through netting and collateral agreements by promoting portfolio reconciliation and accurate valuation of trades; (e) address all major asset classes and product types; and (f) encompass both dealers and investors.

III. Enhancing transparency and valuation

This period of market turmoil and illiquidity has highlighted the importance to market confidence of reliable valuations and useful disclosures of the risks associated with structured credit products and off-balance sheet entities. Accounting standards define the fundamental framework of financial reporting, which permits the measurement of the financial condition and performance of firms. Adherence to these standards is the cornerstone of a well-functioning financial system. In addition, the quality of financial reporting is enhanced by the efforts of market participants, auditors and supervisory and regulatory authorities to strengthen the reliability of valuations and of risk disclosures. Sound disclosure, accounting and valuation practices are essential to achieve transparency, to maintain market confidence and to promote effective market discipline.

This chapter sets out recommendations to improve market transparency in the following areas:

- Risk disclosures by market participants;
- Accounting and disclosure standards for off-balance sheet entities;
- Valuation; and
- Transparency in securitisation processes and markets.

1. Risk disclosures by market participants

Financial institutions should strengthen their risk disclosures and supervisors should improve risk disclosure requirements under Pillar 3 of Basel II.

During the early stages of the market turmoil, public disclosures by financial institutions did not always make clear the risks associated with their on- and off-balance sheet exposures. The information disclosed about risk exposures was not sufficiently timely and useful to many investors and other market participants. A number of financial institutions and auditors worked together to improve risk disclosures for structured products and other exposures, for example in financial accounts and other disclosures for the second half and for year-end 2007. However, a lack of adequate and consistent disclosure of risk exposures and valuations continues to have a corrosive effect on confidence.

Near term

III.1 The FSF strongly encourages financial institutions to make robust risk disclosures using the leading disclosure practices summarised in this report, at the time of their upcoming mid-year 2008 reports.

FINANCIAL STABILITY FORUM

Financial institutions should draw from leading practices to ensure that they provide meaningful disclosures about their risk exposures, risk management and accounting policies that are most relevant in view of current market conditions. Some examples of leading practice risk disclosures in current market conditions have been set forth in a supervisory report on recent quantitative and qualitative disclosures by a sample of global banks and securities firms.^{2,3} This analysis focused on public disclosures about exposures to instruments that the marketplace currently considers to be high-risk or involve more risk than previously thought. Each of the disclosures is presently made by at least one of the surveyed firms, though few of the firms come close to making all of the disclosures.

Enhanced disclosure by financial firms of more meaningful and consistent quantitative and qualitative information about risk exposures, valuations, off-balance sheet entities and related policies would be very useful in restoring market confidence. The FSF therefore strongly encourages financial institutions to make robust disclosures using these leading practice disclosures, at the time of their upcoming mid-year 2008 reports, for those activities where they have significant exposures. Some disclosures may not be relevant for firms that do not have significant exposure to the activity concerned.

Leading practice disclosures for selected exposures

The table below highlights these disclosures, which are further elaborated in Annex B and are described and illustrated in the above-mentioned report. In addition to the information in the table, many of the firms first disclosed the following details for each and all of the categories:

- Total exposure, including on- and off-balance sheet analysis (as well as funded and committed lines, if applicable)
- Exposure before and after hedging
- Exposure before and after write-downs

Additional specificity has been provided through varying combinations of the disclosures contained in the table.

² The Senior Supervisors Group analysed year-end 2007 disclosures by a sample of large internationally-oriented banks and securities firms, in its report "Leading-Practice Disclosures for Selected Exposures", April 2008. The disclosures reviewed were those publicly available as of 7 March 2008.

³ The term "leading" is used to mean most informative, both as regards quantity and quality of information (e.g., the data enable market participants to assess the risks and returns of investments in or exposures to the firm; market participants can properly understand data that are disclosed). The proposed disclosures are intended to supplement rather than replace existing risk disclosures, including those required under Pillar 3 of Basel II. In this context, disclosure broadly includes not only information presented in public securities filings but also information presented in earnings press releases and accompanying presentation slides posted to the firms' internet websites. Indeed, in certain cases, supplemental material can provide market participants with more timely and focused information on risk exposures of current concern.

FINANCIAL STABILITY FORUM

<p><u>Special Purpose Entities (SPEs) - General</u></p> <ul style="list-style-type: none">• Size of SPE vs firm's total exposure• Activities of SPE• Reason for consolidation (if applicable)• Nature of exposure (sponsor, liquidity and/or credit enhancement provider)• Collateral type• Geographic distribution of collateral• Average maturities of collateral• Credit ratings of underlying collateral <p><u>Other Subprime and Alt-A Exposure</u></p> <ul style="list-style-type: none">• Whole loans, residential mortgage-backed securities (RMBSs), derivatives, other• Detail on credit quality (e.g., credit rating, loan-to-value ratios, performance measures)• Breakdown of subprime mortgage exposure by vintage• Sensitivity of valuation to changes in key assumptions and inputs	<p><u>Collateralised Debt Obligations</u></p> <ul style="list-style-type: none">• Size of CDOs vs firm's total exposure• Breakdown of CDOs – type, tranche, rating, etc.• Breakdown of collateral by type• Breakdown of subprime mortgage exposure by vintage• Hedges, including exposures to monolines, other counterparties• Creditworthiness of hedge counterparties• Credit valuation adjustments for specific counterparties• Sensitivity of valuation to changes in key assumptions and inputs <p><u>Commercial Mortgage-Backed Securities</u></p> <ul style="list-style-type: none">• Breakdown of collateral by industry• Breakdown of collateral by geography• Change in exposure from the prior period, including sales and write-downs <p><u>Leveraged Finance</u></p> <ul style="list-style-type: none">• Funded exposure and unfunded commitments• Change in exposure from prior period(s), including sales and write-downs• Distribution of exposure by industry• Distribution of exposure by geography
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Medium term

The above disclosures are designed to address the specific areas of market concern during the current turmoil. To achieve a similar outcome in the medium term, future risk disclosures should focus on similar underlying principles, although the particular areas for additional disclosures will depend on market conditions at the time. This will require firms to maintain appropriate internal firm-wide risk measurement systems to deliver meaningful and timely risk disclosures.

III.2 Going forward, investors, financial industry representatives and auditors should work together to provide risk disclosures that are most relevant to the market conditions at the time of the disclosure. To this end:

- *Investors, industry representatives and auditors should develop principles that should form the basis for useful risk disclosures.*
- *Investors, industry representatives and auditors should meet together, on a semi-annual basis, to discuss the key risks faced by the financial sector and to identify the types of risk disclosures that would be most relevant and useful to investors at that time.*

Regulators, supervisors and standard setters should be consulted with respect to the above efforts. A more prescriptive approach by securities market regulators, bank supervisors or accounting standard setters may prove necessary if this market-led approach proves inadequate.

III.3 The BCBS will issue by 2009 further guidance to strengthen disclosure requirements under Pillar 3 of Basel II for:

- *securitisation exposures, particularly exposures held in the trading book and related to re-securitisation;*
- *sponsorship of off-balance sheet vehicles, to give the market greater insight into the extent of banks' contractual and non-contractual obligations and exposures;*
- *banks' liquidity commitments to ABCP conduits, to ensure that disclosure is as clear as for on-balance sheet credit exposures; and*
- *valuations, including the methodologies and uncertainties related to those valuations.*

Enhanced disclosures in these areas could help to avoid a recurrence of market uncertainties about the strength of banks' balance sheets in the event of a future episode of market turmoil. This strengthened guidance will be based on the lessons from the recent turmoil, including the leading practice disclosures recommended for the near term as noted above, together with an early assessment of the implementation of Basel II. The first Pillar 3 disclosures in many countries will be available by 2009.

2. Accounting and disclosure standards for off-balance sheet entities

III.4 The IASB should improve the accounting and disclosure standards for off-balance sheet vehicles on an accelerated basis and work with other standard setters toward international convergence.

The build-up and subsequent revelation of significant off-balance sheet exposures has highlighted the need for clarity about the treatment of off-balance sheet entities and about the risks they pose to financial institutions. The use of off-balance sheet entities created a belief that risk did not lie with arrangers and led market participants to underestimate firms' risk exposures. Risk exposures and potential losses associated with off-balance sheet entities should be clearly presented in financial disclosures, and the accounting

FINANCIAL STABILITY FORUM

standards affecting these entities should be enhanced and their international convergence accelerated based on the lessons learned.

Off-balance sheet treatment in financial reports can arise as a result of the standards for derecognition (e.g., removing assets from balance sheets through securitisations) and consolidation (e.g., special purpose entities). The standards of the IASB and the US Financial Accounting Standards Board (FASB) differ for both topics and with respect to the required disclosures about off-balance sheet vehicles. The IASB and FASB have projects underway to converge their standards in these areas and this work should be accelerated so that high-quality, consistent approaches can be achieved. In doing so, and consistent with their required due process, the IASB and the FASB should consider moving directly to exposure drafts on off-balance sheet issues, rather than discussion papers, to meet the urgent need for improved standards. Standards should require the risk exposures and potential losses associated with off-balance sheet entities to be clearly identified and presented in financial disclosures. The IASB and FASB should consult investors, regulators, supervisors and other stakeholders for their views during this process, and should take note of issues that have come to light during the current market turmoil and the progress reflected in 2007 annual reports and other disclosures.

3. Valuation

International standard setters should enhance accounting, disclosure and audit guidance for valuations. Firms' valuation processes and related supervisory guidance should be enhanced.

Potential weaknesses in valuation practices and disclosures, and the difficulties associated with fair valuation in circumstances in which markets become unavailable, have become apparent from the turmoil. Financial institutions, auditors, accounting standard setters and supervisors must take urgent action to address these problems.

Generally, structured credit products are held as (a) financial instruments measured at fair value through profit or loss or (b) part of assets available for sale (AFS). Financial instruments measured at fair value through profit or loss are those held for trading and any other financial instruments designated by management at fair value (often referred to as the "fair value option"). As a result of the mark-to-market process for these instruments, changes in their fair value directly impact firms' income statements in the period in which they occur. Changes in the fair value of financial assets which are classified as AFS are recorded directly in equity without affecting profit and loss until the financial assets are sold, at which point the cumulative change in fair value is charged or

FINANCIAL STABILITY FORUM

credited to the income statement.⁴ In contrast, unless held for sale, loans are typically measured at amortised cost using the effective interest method, less an “allowance” or “provision” for impairment losses. Loans held for sale may be reported in trading or AFS portfolios, or, in the US, in held for sale portfolios (at the lower of cost or fair value).

During the turmoil market liquidity for certain financial products dried up due to a lack of market demand and, in the absence of significant amounts of trading activity, price discovery based on observable market prices became much more difficult and other valuation techniques became necessary. In the primary and secondary markets for other products, liquidity did not dry up but did recede substantially, even in instances when there was no prima facie evidence that the asset quality had deteriorated. It became clear that market participants were demanding a liquidity premium for buying assets that was in many cases larger, more broadly based, and more persistent than during prior stress periods. This change in the nature and duration of the premia contributed to the valuation challenge. As liquidity receded for a variety of financial instruments, values fell, resulting in significant deterioration in capital and earnings at many firms.

Valuation approaches seek to rely on prices obtained from active markets when these are available for identical or similar instruments. When markets are not active, firms estimate values by using another valuation technique, such as a model (which may utilise a variety of technical approaches). The use of these techniques has underlined the fact that most valuation methods, including not only fair value but also accrual accounting, result in an inevitable measure of uncertainty attaching to the point estimates of valuations. Finding ways to highlight such uncertainty is important to avoid giving management and market participants a false impression of precision, possibly lulling them into an equally false sense of security. Sound processes for modelling financial products’ values can help ensure that complex risks and their implications for valuation, capital and earnings are understood, managed and reported.

III.5 The IASB will strengthen its standards to achieve better disclosures about valuations, methodologies and the uncertainty associated with valuations.

The IASB will examine its principles and requirements for disclosures about the valuation of financial instruments to identify areas for enhancement in light of lessons learned from the market turmoil. This effort will assess disclosures in year-end 2007 annual reports and draw on the views of investors, firms, auditors, supervisors and regulators about the quality of valuation disclosure practices.

III.6 The IASB will enhance its guidance on valuing financial instruments when markets are no longer active. To this end, it will set up an expert advisory panel in 2008.

⁴ When a decline in the fair value of an AFS financial asset has been reported directly in equity and there is objective evidence that the asset is impaired, the cumulative loss that had been reported directly in equity is removed from equity and reported in profit or loss, reducing net income.

The IASB has a project underway to improve its guidance on fair value measurement. During the market turmoil, active markets did not exist for many financial instruments, leading to challenges in valuing these products. The IASB will form an expert advisory panel to assist it in: (i) reviewing best practices in the area of valuation techniques; and (ii) formulating sound practice guidance on valuation methods for financial instruments and related disclosures when markets are no longer active. This panel will comprise experts representing both preparers and users of financial statements, as well as regulators, supervisors and auditors. The group will have a broad perspective of expertise encompassing risk modelling, valuation and auditing.

III.7 Financial institutions should establish rigorous valuation processes and make robust valuation disclosures. To this end, they should:

- ***Establish rigorous and timely processes to apply critical expert judgment and discipline in how they value holdings of complex or illiquid instruments (avoiding undue reliance on ratings and consensus pricing services);***
- ***Maintain sound governance and control practices associated with valuation processes, including those that deal with hard-to-observe inputs to valuation models, model validations, price verification and related audit programs; and***
- ***Enhance the quality of their disclosures about valuations, valuation methodologies, price verification processes and the uncertainty associated with valuations.***

Supervisors' assessments of valuation practices have stressed the importance of consistent application of independent and rigorous valuation practices across the firm. At firms that performed better in late 2007, management had established, before the turmoil began, rigorous internal processes requiring critical judgment and discipline in the valuation of holdings of complex or potentially illiquid securities. When these firms reached decisions on values, they sought to use those values consistently across the firm, including for their own and their counterparties' positions. Once the turmoil began, these firms were also more likely to test their valuation estimates by selling a small percentage of relevant assets to observe a price or by looking for other clues, such as disputes over the value of collateral, to assess the accuracy of their valuations of the same or similar assets.

In contrast, firms that faced more significant challenges in late 2007 generally had not established or made rigorous use of internal processes to challenge valuations. They continued to price the super-senior tranches of CDOs at or close to par despite observable deterioration in the performance of the underlying RMBS collateral and declining market liquidity. Management did not exercise sufficient discipline over the valuation process; these firms generally lacked relevant internal valuation models and sometimes relied too passively on external views of credit risk from CRAs and pricing services to determine values for their exposures. Furthermore, when considering how the value of their

exposures would behave in the future, they often continued to rely on estimates of asset correlation that reflected more favourable market conditions.

Firms should ensure that sound governance and control practices are maintained with respect to their valuation processes and that their internal systems provide timely information needed for senior management and for useful public disclosures.

Financial institutions and auditors have worked together to improve valuation approaches and related disclosures in end-year financial accounts. But further work is needed to provide confidence that valuation methodologies and related loss estimates are adequate, to clearly highlight the uncertainties associated with valuations, and to allow for more meaningful comparisons across firms.

III.8 The BCBS will issue for consultation guidance to enhance the supervisory assessment of banks' valuation processes and reinforce sound practices in 2008.

This guidance⁵ will apply to all fair valued positions, whether reported under the guidance for banks' trading accounts, AFS assets, or the fair value option, and will cover sound governance and controls, the quality of banks' measurement approaches and the appropriate use of a diverse set of information to improve the reliability of valuations. Following this guidance, banks will:

- strengthen their capacity to produce reasonable valuations during periods of stress;
- consider the quality of inputs (including consensus pricing services), models and the extent of liquidity in assessing valuation uncertainty; and
- implement systems and procedures that will assure internal and external transparency.

III.9 The International Auditing and Assurance Standards Board (IAASB), major national audit standard setters and relevant regulators should consider the lessons learned during the market turmoil and, where necessary, enhance the guidance for audits of valuations of complex or illiquid financial products and related disclosures.

Valuations and related disclosures that have been externally audited contribute to enhanced market confidence. The IAASB has a project underway to consider fair value issues. The six largest audit firms should share with the IAASB the audit approaches that they have brought to bear in addressing the auditing and financial reporting issues

⁵ In developing this guidance for supervisors, the BCBS will reinforce industry sound practices with respect to rigorous valuations and related governance and control procedures. As part of its supervisory guidance the BCBS will strongly encourage banks to adopt the 17 best practices outlined in the December 2003 Group of 30 report "Enhancing Public Confidence in Financial Reporting".

resulting from the current market conditions and which could be used for enhancing auditing guidance. The IAASB, national audit standard setters and relevant regulators could benefit from these approaches and recommendations as they determine whether or how best to update their auditing guidance based on lessons learned during the turmoil.

4. Transparency in securitisation processes and markets

Securities market regulators should work with market participants to expand information on securitised products and their underlying assets.

Market practices regarding initial and ongoing disclosures relating to structured products, both in public and private markets, will need to improve in the light of recent events. Securities market regulators will work with market participants to this end. IOSCO will assess the progress made by end-2008.

Originators, arrangers, distributors, investors and CRAs have strong incentives to work together to develop improved initial and ongoing transparency in securitisation processes and related markets. A number of initiatives are underway in this area, which authorities are monitoring closely.

III.10 Originators, arrangers, distributors, managers and CRAs should strengthen transparency at each stage of the securitisation chain, including by enhancing and standardising information on an initial and ongoing basis about the pools of assets underlying structured credit products.

Firms that sponsor or provide credit or liquidity enhancements to ABCP programs should disclose initially and periodically the distribution of assets underlying the programs by type, industry and credit rating, and the performance of these underlying assets.

The American Securitization Forum (ASF) and European Securitisation Forum (ESF) are developing templates for disclosures to investors about ABCP conduits, as the ASF has done for multi-seller ABCP conduits. The Japan Securities Dealers Association (JSDA), together with originators, arrangers, investors and the regulator, is making efforts to establish distributors' rules and a standardised format of disclosure of securitised products. CRAs also have made proposals to enhance the information they provide. The work by the ESF, JSDA, ASF and CRAs in this area is welcome.

III.11 Originators and issuers of securitised products should be transparent about the underwriting standards for the underlying assets. They should also make available to investors and CRAs the results of their own due diligence.

The problems in the US subprime market revealed serious lapses in due diligence by the arrangers of securitised products concerning the quality of the underlying assets. Where arrangers undertake due diligence, they have not always disclosed the results. Arrangers should conduct rigorous due diligence and make available to investors and CRAs the results obtained.

III.12 Investors, and their asset managers, should obtain from sponsors and underwriters of structured credit products access to better information about the risk characteristics of the credits, including information about the underlying asset pools, on an initial and ongoing basis.

Ensuring the provision by arrangers of information necessary for investors' due diligence and risk management is not solely the responsibility of arrangers. Investors themselves have a responsibility to specify and demand the information that they require.

III.13 Securities market regulators will work with market participants to study the scope to set up a comprehensive system for post-trade transparency of the prices and volumes traded in secondary markets for credit instruments.

Post-trade information about prices and volumes in the secondary market is critical to the reinforcement of valuation practices for credit instruments and as supplementary information on the scale of risk transfers. Starting in 2008, regulators will work with market participants to study the scope to establish such a system for post-trade information.

IV. Changes in the role and uses of credit ratings

CRAAs play an important role in evaluating and disseminating information on structured credit products, and many investors have relied heavily on their ratings opinions. Poor credit assessments by CRAAs contributed both to the build up to and the unfolding of recent events. In particular, CRAAs assigned high ratings to complex structured subprime debt based on inadequate historical data and in some cases flawed models. As investors realised this, they lost confidence in ratings of securitised products more generally.

CRAAs have since undertaken, individually and collectively, a series of actions to draw lessons for their internal governance and operational practices to strengthen ratings quality, enhance the rating process, manage conflicts of interest and enhance the information they provide on rating methodologies and the meaning and limitations of ratings. The steps are welcome but more is needed.

In this chapter, we set out recommendations relating to:

- The quality of the rating process;
- Differentiated ratings and expanded information on structured products;
- CRA assessment of underlying data quality; and
- The uses of ratings by investors and regulators.

1. Quality of the rating process

CRAAs should improve the quality of the rating process and manage conflicts of interest in rating structured products.

One of the important triggers of the current turmoil was the precipitous decline in confidence in ratings of structured credit products. After assigning high ratings to subprime-related RMBSs and CDOs between 2004 and 2007, and thus contributing to the phenomenal growth of subprime lending, since mid-2007 CRAAs have announced an inordinate number of rapid multi-notch downgrades of these instruments. This has raised questions about the quality of credit ratings with regard to structured products.

One issue that has received attention is whether CRAAs' poor ratings performance in structured products might have reflected more intense conflicts of interest in the rating of these than for other products. The CRAAs that rate the vast majority of such products rely primarily on an issuer-pays model and the revenues from this rating activity accounted for a fast growing income stream for these CRAAs in recent years. In many cases, CRAAs are typically paid only if the credit rating is issued, though they sometimes receive a breakup fee when one is not. The issuer-pays model places a premium on CRAAs being

FINANCIAL STABILITY FORUM

able to demonstrate that their rating operations and decisions are carried out to the highest standards of objectivity and that conflicts of interest are effectively addressed.

While the issuer-pays model applies to all the products rated by these CRAs, including corporate bonds, the standard conflicts of interest may be more acute for structured finance ratings. Because structured products are designed to take advantage of different investor risk preferences, they are typically structured for each tranche to achieve a particular credit rating. To the extent that CRAs discuss with issuers during this structuring process the rating implications of particular structures, the potential for conflicts of interest becomes greater. The conflicts are exacerbated when CRAs also sell consulting services to entities that purchased ratings.

The severe underestimation by CRAs of the credit risks of instruments collateralised by subprime mortgages resulted in part from flaws in their rating methodologies. One issue was the limited set of historical data available for subprime lending activities, which increased the model risk in the rating process. In particular, historical data on the performance of US subprime loans were largely confined to a benign economic environment with rising house prices. The lack of sufficient historical data or of scenario analysis that adequately assessed how particular asset pools would respond to potential economic scenarios led to ratings mistakes. In particular, CRAs underestimated the correlations in the defaults that would occur during a broad market downturn.

In addition, CRAs did not take account of the substantial weakening of underwriting standards for products associated with certain originators.

CRAs are strengthening internal governance to address conflicts of interest and enhance the rating methodology processes for structured products. These steps include the operational and legal separation of rating activities from non-rating business activities; de-linkage of rating managers' compensation from the financial performance of their business unit; enhancement to the surveillance of the rating process; and strengthened internal oversight of rating methodologies. Meanwhile, rating methodologies themselves have been rapidly revised in the light of market events.

These steps are welcome. Additional measures must be taken to improve internal governance, enhance transparency about rating practices, and ensure compliance with relevant Codes of Conduct. These are important ways for CRAs to regain market confidence.

Of particular interest is the fact that currently many CRAs do not publish verifiable and easily comparable historical performance data regarding their ratings. The comparability of rating performance would promote competition by allowing customers to better assess the accuracy of the CRAs' past ratings. CRAs should disclose past ratings in a more systematic way, and improve the comparability of their track records.

IV.1 IOSCO will revise its Code of Conduct Fundamentals for Credit Rating Agencies by mid-2008 to:

- *improve the quality of the rating process including the models, methodologies and information used for ratings (e.g., by CRAs creating an independent function to conduct periodic reviews);*
- *address conflicts of interest, including concerns about analyst remuneration and about the separation of consulting and rating activities; and*
- *provide investors with additional information on the methodologies and criteria used for ratings, how CRAs address data limitations, and data on the historical performance of ratings.*

IV.2 CRAs should quickly revise their codes of conduct to implement the revised IOSCO CRA Code of Conduct Fundamentals. Authorities will monitor, individually or collectively, the implementation of the revised IOSCO Code of Conduct by CRAs, in order to ensure that CRAs quickly translate it into action.

In recent years, the strong growth in demand for ratings services for structured products, together with the growing complexity of structured products, has put strains on CRAs' available resources. Adequate resources are needed not only in the initial rating process, but also in subsequent monitoring of the ratings.

IV.3 CRAs should demonstrate that they have the ability to maintain the quality of their service in the face of rapid expansion of their activities, and allocate adequate resources to both the initial rating and to the rating's regular review.

2. Differentiated ratings and expanded information on structured products

CRAs should differentiate ratings on structured finance from those on bonds, and expand the initial and ongoing information provided on the risk characteristics of structured products.

IV.4 CRAs should clearly differentiate, either with a different rating scale or with additional symbols, the ratings used for structured products from those for corporate bonds, subject to appropriate notification and comment.

Many investors took CRAs' ratings opinion of structured credit products as a seal of approval and looked no further. But structured finance ratings differ from traditional corporate debt ratings in that they are model-based and to a larger degree assumption-driven, result from an "inverted" ratings process in which a structure is fitted to a desired rating, often rely on non-public information about the underlying assets, and have the potential for significantly higher ratings volatility in certain circumstances.

As the pooling technique diversifies away the idiosyncratic risk of each individual asset, the average credit performance of the underlying pool of assets tends to be significantly less volatile and more predictable in normal times than the individual assets. But when an economy-wide event occurs that influences the creditworthiness of many assets at once, correlated defaults in the asset pool eliminate much of the benefit of diversification. This gives a strong “cliff” effect to the ratings of structured products: while structured products have more stable ratings than corporate bonds during times of overall economic and financial calm, they have a higher risk of a severe downgrade than corporate bonds during difficult conditions.

Despite these differences, CRAs currently apply the same rating categories to both structured products and corporate bonds. Many investors did not understand or fully appreciate the differences in risk characteristics between those products. Clear, additional information therefore needs to be provided on the different risk characteristics of structured products.

A separate rating scale or additional rating symbols for structured products would signal to investors that, under stress conditions, the credit rating of structured products have different risk properties. Separate symbology would also alert investors that a structured-product rating relies on different information and methodologies than it does for a corporate bond. The steps that CRAs have taken to consult on improvements in this area are welcome. But, at the same time, the introduction of a new, separate rating symbology can also require fundamental changes to investment guidelines and to regulations that reference credit ratings. The introduction of a different rating symbology should therefore be subject to review of its implications for markets and for regulations.

IV.5 CRAs should expand the initial and ongoing information that they provide on the risk characteristics of structured products, including:

- *additional initial and ongoing information on rating stability;*
- *the assumptions underlying a structured product rating and the sensitivity of the rating to changes in these assumptions;*
- *information about their loss and cash-flow analysis of structured products;*
- *information on limitations of rating analysis due to insufficient data or untested models, including rating uncertainty; and*
- *standardised initial and ongoing performance reports, especially for re-securitised products.*

Ratings of mortgage-backed structured instruments relied heavily on CRAs’ assumptions about future house price movements and broader economic conditions. As already discussed, the pooling of assets reduces idiosyncratic risk, but increases exposures to systematic risk factors. For that reason, CRAs’ assumptions and scenario analysis about economic and other systemic factors are an important part of the information that investors need if they are to use ratings properly. Investors should therefore have access

to the assumptions and scenarios underlying the rating of structured finance products. In the past, these assumptions and scenarios, and the sensitivity of ratings to these assumptions, have not been conveyed to investors sufficiently explicitly.

Where ratings involve a type of financial product with limited historical data or untested models, CRAs should make clear, in a prominent place, the limitations of ratings and the additional risks associated with the credit ratings of such products. CRAs should also clearly and regularly disclose to investors the assumptions underlying their ratings. They should document the sensitivity of structured finance ratings to changes in their central assumptions.

3. CRA assessment of underlying data quality

CRAs should enhance their review of the quality of the data input and of the due diligence performed on underlying assets by originators, arrangers and issuers involved in structured products.

IV.6 CRAs should review the quality of the data input and the due diligence performed by originators, arrangers and issuers. To this end, CRAs should:

- *require underwriters to provide representations about the level and scope of due diligence that they have performed on the underlying assets;*
- *adopt reasonable measures to ensure that the information they use is of sufficient quality to support a credible rating;*
- *establish an independent function to review the feasibility of providing a credit rating for new products materially different from those currently rated;*
- *refrain from rating a security in cases where the complexity or structure of a new type of structured product, or the lack of robust data about underlying assets, raises serious questions as to whether CRAs can determine a credit rating;*
- *disclose what qualitative reviews they perform on originators' underwriting standards; and*
- *take into account the information on the portion of underlying assets held by originators when rating securitised products.*

One cause of the poor performance of recent-vintage subprime mortgages was lax loan underwriting that accommodated unverified borrower financial information. A significant fraction of early payment defaults in subprime loans had clear signs of fraud in the loan files. Due diligence about the quality of underlying data and about the quality of operations of originators, issuers or servicers could have identified these problems and is important to the assessment of creditworthiness.

When rating structured products, CRAs do not generally confirm the validity of the underlying data provided to them. Nor do they monitor the performance of all the various agents involved in the securitisation process. CRAs rely on originators, issuers and arrangers to verify and validate information before passing it on to others, including CRAs. However, the recent episode has highlighted that credit ratings for structured products had been often based on incorrect information.

The quality of the underlying data has an important impact on the accuracy of ratings. While originators, arrangers and issuers of structured credit products are responsible for providing adequate and timely information on the underlying assets of structured credit products, CRAs should review the quality of the data input and evaluate and disclose the level and scope of the due diligence performed by originators, arrangers and issuers. An improvement in, and disclosure of, CRAs' due diligence and monitoring procedures will contribute to strengthening the incentive structure of the OTD model. CRAs should disclose information on the retention by originators and arrangers of parts of tranches in structured credit products and take the information into account in their rating process.

4. Uses of ratings by investors and regulators

Investors should address their over-reliance on ratings. Investor associations should consider developing standards of due diligence and credit analysis for investing in structured products.

IV.7 Investors should reconsider how they use credit ratings in their investment guidelines and mandates and for risk management and valuation. Ratings should not replace appropriate risk analysis and management on the part of investors. Investors should conduct risk analysis commensurate with the complexity of the structured product and the materiality of their holding, or refrain from such investments.

While ratings play a useful role in limiting, monitoring and communicating the credit risks that investors and asset managers take, they clearly do not cover the full range of risks investors face. Credit ratings are assessments of creditworthiness, but not assessments of the level of liquidity, market or rating volatility risk. However, some institutional investors have relied too heavily on ratings in their investment guidelines and choices, in some cases fully substituting ratings for independent risk assessment and due diligence. Some also relied exclusively on ratings for valuation purposes.

The over-reliance on ratings was particularly acute in the case of structured finance products. One important factor is that the analysis of the underlying assets and the correlation risk is quite challenging, and investors in highly-rated products with low risk premia may lack expertise or be tempted to avoid the costs of doing their own analysis. Other factors include the absence of an active secondary market for these products, lack

of sufficient historical performance data, and lack of a universally agreed valuation method.

All these factors have contributed to a situation where many investors largely relied on credit ratings to assess the risk of holding structured finance products. Consequently, when the quality of CRAs' ratings became questioned, some investors were left with no independent means of assessing the risk of these products, which added to market illiquidity.

As was already discussed, CRAs should improve the quality of their rating process and expand the information provided on the risk characteristics of structured products. But enhanced disclosure by CRAs is useful only if investors make appropriate use of the information for their due diligence and risk management. Investors should therefore re-consider how they use credit ratings in their investment guidelines and mandates and for risk management and valuation.

Authorities will review their use of ratings in the regulatory and supervisory framework.

IV.8 Authorities should check that the roles that they have assigned to ratings in regulations and supervisory rules are consistent with the objectives of having investors make independent judgment of risks and perform their own due diligence, and that they do not induce uncritical reliance on credit ratings as a substitute for that independent evaluation.

Credit ratings are referred to in various regulatory and supervisory frameworks both at the international and at the national level. Such official recognition in regulation and/or supervisory policies may have played a role in encouraging investors' over-reliance on ratings, by discouraging some investors from paying close attention to what the ratings actually mean.

It is important to ensure that the use of ratings by authorities does not contribute to the lack of competition in the CRA industry. Issuers prefer to obtain, and investors prefer to use, the opinions of CRAs that public authorities also use. Regulatory recognition in turn takes into account the extent of use of CRAs in the market. These forces can potentially act as barriers to entry for new participants. Regulators and other bodies need to keep their processes under review to avoid this. Indeed, if regulators require that those CRAs whose ratings are used in regulations maintain adequate disclosures about ratings processes and performance, this can help to promote competition.

Structured products have different rating stability properties to those for corporate bonds. However, authorities' policies and regulations that refer to ratings do not always distinguish between corporate and structured finance ratings. While the links between low default rates, low volatility and high liquidity are not logical necessities, some

FINANCIAL STABILITY FORUM

regulations also implicitly assume that securities with high credit ratings are liquid and have lower price volatility.

The Joint Forum will conduct a stocktaking of the uses of ratings by its member authorities in the banking, securities and insurance sectors. Authorities will review whether their regulations and/or supervisory policies unintentionally give credit ratings an official seal of approval that further discourages investors from performing their own due diligence. Authorities are aware, however, that credit ratings play an important role in investment and risk management frameworks. The transitional implications of any changes to regulations and supervisory rules should thus be carefully considered.

V. Strengthening the authorities' responsiveness to risks

Some of the weaknesses that have come to light were known or suspected within the community of financial authorities before the turmoil began. Indeed, much work was underway at international levels that – if already implemented – might have tempered the scale of the problems experienced. However, international processes for agreeing and implementing regulatory and supervisory responses have in some cases been too slow given the pace of innovation in financial markets. Where international guidance to firms has been agreed, national regulators and supervisors have not always followed up with firms to check that they have implemented the guidance. Where authorities have expressed concerns about risks to markets or to individual institutions, they have not always been successful in changing behaviour. Authorities need to enhance the prioritisation and coordination of their risk assessments and international policy development work and increase the effectiveness of their communication with markets.

This chapter contains recommendations on:

- Translating risk analysis into action;
- Improving information exchange and cooperation among authorities; and
- Enhancing international bodies' policy work.

1. Translating risk analysis into action

Supervisors, regulators and central banks – individually and collectively – will take additional steps to more effectively translate their risk analysis into actions that mitigate those risks.

V.1 Supervisors should see that they have the requisite resources and expertise to oversee the risks associated with financial innovation and to ensure that firms they supervise have the capacity to understand and manage the risks.

The increased complexity of financial products and markets poses greater challenges to the ability of market participants, regulators and supervisors to keep pace with the evolving risks to markets and institutions. Supervisors and regulators need to make sure that the risk management and control framework within financial institutions keeps pace with the changes in instruments, markets and business models, and that firms do not engage in activities without having adequate controls. The skills of risk managers and supervisors will need to be continually updated to keep pace with market changes.

V.2 Supervisors and regulators should formally communicate to firms' boards and senior management at an early stage their concerns about risk exposures and

the quality of risk management and the need for firms to take responsive action. Those supervisors who do not already do so should adopt this practice.

Where supervisors identify concerns about a firm's risk exposures and the quality of risk management, they can best assure that the firm will take prompt, responsive, firm-wide action by raising the concerns early and directly with the firm's board and senior management, rather than solely with risk managers and compliance officers. Supervisors in some jurisdictions already follow this practice, and others should do so.

V.3 *At the international level, the FSF will give more force to its own risk analysis and recommendations, both directly and through the actions of its members, by initiating and following up action to investigate and mitigate risk.*

In the years leading up to the market turmoil, many authorities, including supervisors, regulators and central banks, identified concerns about weaknesses that have now come more fully to light (e.g., about lack of effective credit risk transfer, valuation difficulties in complex products, and weaknesses in the robustness of risk management practices for market and funding liquidity). Nevertheless, they had only limited success in focusing market participants' attention on these issues and on the need to take proactive steps to address them.

V.4 *The FSF will establish a mechanism for regular interaction at senior level with private sector participants, including investors and CRAs, for prompting mitigating actions to identified risks and weaknesses.*

An enhanced dialogue of this sort between the authorities within the FSF and the financial industry would enable market participants to raise with the FSF issues of market weakness and other important regulatory issues that warrant attention, and of how to best stimulate actions by the private sector to address the identified weaknesses.

2. Improving information exchange and cooperation among authorities

Authorities' exchange of information and cooperation in the development of good practices will be improved at national and international levels.

Supervisory exchange of information and cooperation in addressing cross-border issues should continue to be improved. Much work has taken place in recent years among supervisors in those areas. Some of the most concrete and formal examples of this work involve regional initiatives, such as in the European Union. Work to further improve international cooperation should continue and be further enhanced. Some specific examples are as follows.

V.5 *The use of international colleges of supervisors should be expanded so that, by end-2008, a college exists for each of the largest global financial institutions.*

FINANCIAL STABILITY FORUM

Cross-border communication between supervisors of the various units of each large global financial institution has worked fairly well in the period leading up to, and during, the market turmoil. Nevertheless, the global ramifications of the turmoil, the further illustration that it has given of the importance of firm-wide risk management, and more specifically the difficulties over cross-border liquidity management have further emphasised the importance of systematic cross-border supervisory cooperation.

Supervisors should build on existing examples of supervisory colleges, both in the Basel II framework and in regional arrangements such as the EU, to establish an international college of the most relevant supervisors for each of the largest global financial institutions by end-2008. The purpose of the colleges would be to enhance cooperation on ongoing supervisory issues. The design and membership of each college would need to be tailored to the institution that it oversees in order to ensure that the college is able to operate in an effective and flexible fashion. Colleges should hold their first meetings by December 2008 to exchange information and assessments and, as appropriate, to cooperate in supervision.

V.6 Supervisors involved in these colleges should conduct an exercise, by 2009, to draw lessons about good practices.

The most appropriate format for each international college of supervisors and priorities for issues to be addressed will vary according to the organisational form and activities of the particular financial institution. At the same time, it would be valuable to derive common lessons about good practices in operating colleges. Supervisors should therefore undertake an exercise, by 2009, to draw lessons from the experiences of colleges up to that point.

V.7 To quicken supervisory responsiveness to developments that have a common effect across a number of institutions, supervisory exchange of information and coordination in the development of best practice benchmarks should be improved at both national and international levels.

Supervisors, both nationally and internationally, will seek further opportunities to compare risk management practices across firms, draw lessons and develop benchmarks to improve those practices. The recent study by the Senior Supervisors Group of risk management practices of major financial institutions during the market turmoil provides an example of the way supervisors can flexibly organise themselves to address in a timely way issues having a common effect across a number of institutions and to draw common lessons.

V.8 Supervisors and central banks should improve cooperation and the exchange of information including in the assessment of financial stability risks. The exchange of information should be rapid during periods of market strain.

An important feature of the current market turmoil has been the interaction of market concerns about the health of individual financial institutions with strains in market functioning, including dislocations in money markets. Communication and cooperation

among supervisors and central banks has worked reasonably well, including across borders. Nevertheless, the episode has provided a reminder that such arrangements need to be kept under review, to ensure that they remain robust both in normal times and during periods of market strain, and that they evolve to meet changing requirements as markets themselves change.

The supervision of individual institutions should be complemented by information on the results of central banks' assessments of the stability of the broader financial system, and conversely the central bank assessments should be complemented by information from the supervisory assessments of individual institutions.

V.9 To facilitate central bank mitigation of market liquidity strains, large banks will be required to share their liquidity contingency plans with relevant central banks.

Rapid availability of information at the relevant authorities is especially important at times of market strain. This involves both arrangements for prompt sharing of information once strains emerge, and also advance sharing of information that would be relevant. One such example is the need for large banks to share their liquidity contingency plans not only with their supervisors but with relevant central banks. Sharing of such information would enable central banks to base their money market operations on a better understanding of the implications of market strains for banks' liquidity needs.

3. Enhancing international bodies' policy work

<p>International bodies will enhance the speed, prioritisation and coordination of their policy development work.</p>
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V.10 International regulatory, supervisory and central bank committees will strengthen their prioritisation of issues and, for difficult to resolve issues, establish mechanisms for escalating them to a senior decision-making level. As part of this effort, they will establish timetables for required action and action plans for addressing delayed or difficult issues.

The speed of innovation and increasing globalisation pose challenges for authorities in responding in a rapid and internationally coordinated fashion. The turmoil has involved a number of instruments and markets which grew very rapidly in volume and complexity in recent years and which had systemic effects that crossed national and sectoral boundaries.

International regulatory, supervisory and central bank committees need to remain flexible and responsive in their prioritisation of issues, and ready to find rapid solutions to issues that are proving difficult to resolve by their regular channels. As part of their response to the current turmoil, these committees have demonstrated their willingness to accelerate their work timetables where needed. Member bodies of these committees need to ensure

FINANCIAL STABILITY FORUM

that their senior managements are made aware at an early stage of issues of potential systemic importance that may in due course require resolution at a senior level.

V.11 National supervisors will, as part of their regular supervision, take additional steps to check the implementation of guidance issued by international committees.

International committees' standards and guidance to firms will only be successful in mitigating risks if firms implement them. National supervisors will more closely check the implementation of international guidance to firms, consistent with their own statutory mandates. An early opportunity for supervisors to take such action will be in the follow-up to the forthcoming strengthened liquidity guidance by the BCBS.

V.12 The FSF will encourage joint strategic reviews by standard-setting committees to better ensure policy development is coordinated and focused on priorities.

International standards play an important role in shaping a resilient integrated financial system on a level playing field. As the system integrates and becomes more market based, interdependencies across standard-setting areas increase. To facilitate the coordination of policy development and its focus on priorities, the FSF will encourage joint strategic reviews by standard-setting bodies of their priorities, thereby aiming to ensure that gaps are filled and duplication avoided. The BIS will actively support the FSF in this work.

V.13 The FSF and IMF will intensify their cooperation on financial stability, with each complementing the other's role. As part of this, the IMF will report the findings from its monitoring of financial stability risks to FSF meetings, and in turn will seek to incorporate relevant FSF's conclusions into its own bilateral and multilateral surveillance work.

The FSF and IMF have cooperated closely on financial stability work ever since the FSF was formed. The IMF, in its role as a member of the FSF, participates fully in FSF activities. The FSF Chairman regularly reports to the International Monetary and Financial Committee of the IMF. The FSF and IMF have worked together on many different projects, in particular with respect to the joint IMF/World Bank assessment of countries' compliance with the 12 key standards and codes that the FSF has designated as deserving priority implementation.

The global nature of the recent turmoil has emphasised the need for cross-border cooperation between authorities and, as part of that, the FSF and IMF are exploring ways to intensify their cooperation. As one example of this, the IMF will send to the FSF a note describing their assessment of key risks to global financial stability ahead of each semi-annual FSF meeting. This will supplement the existing analysis of risks taking place within the FSF. The IMF will in turn draw lessons from FSF meetings for issues to focus on in its bilateral and multilateral surveillance work.

VI. Robust arrangements for dealing with stress in the financial system

Central banks' operational frameworks should be able to supply liquidity effectively when markets and institutions are under stress. The extended tensions in interbank markets, which have continued with varying intensity since August 2007, have provided a severe test of those frameworks, and central banks have responded in a variety of ways, including innovations in the instruments they use. In December 2007 and since March 2008 they relieved market pressures through coordinated actions.

Central banks, through the CGFS, are actively investigating the lessons to be drawn from these recent experiences for their operational frameworks, including the capacity to provide liquidity broadly and flexibly under stressed conditions, for their communication with markets, and for the steps that might be advisable across central banks to address liquidity needs in globalised financial markets. This chapter draws on the preliminary lessons from that ongoing study.

Meanwhile, liquidity or solvency problems at a number of banks and securities firms in various countries, and the global nature of the market problems, have highlighted the importance of robust cross-border arrangements for dealing with weak banks. To date, none of the problems at individual institutions have required a coordinated international response from authorities, but it is prudent to ensure that well established coordination arrangements are in place. Authorities need to strengthen, where appropriate, arrangements (legal frameworks for resolution, deposit insurance, etc) for dealing with weak banks, both nationally and cross-border.

This chapter sets out recommendations on:

- Central bank operations; and
- Arrangements for dealing with weak banks.

1. Central bank operations

Central bank operational frameworks should be sufficiently flexible in terms of potential frequency and maturity of operations, available instruments, and the range of counterparties and collateral, to deal with extraordinary situations.

Overall, central banks' responses to the liquidity tensions caused by the financial market turmoil have been reasonably effective at relieving pressures in interbank funding markets. They could not, and were not intended to, address the underlying causes of the problems, which lay well beyond the scope of central banks' reserve-providing operations. Nevertheless, the experience offers some lessons that could lead in some cases to a revision of central bank operational objectives and policy instruments.

VI.1 To meet an increased but uncertain demand for reserves, monetary policy operational frameworks should be capable of quickly and flexibly injecting substantial quantities of reserves without running the risk of driving overnight rates substantially below policy targets for significant periods of time.

In the initial phases of the turmoil, the fluctuations of overnight market interest rates around central banks' targets increased in the major currency areas. Over the following weeks, central banks achieved better control of targeted market rates, either by adjusting their frameworks or by changing the modalities of their actions within those frameworks.

The events clearly illustrated that, during periods of financial market turmoil, demand for central bank reserves can increase quickly and substantially. Central banks may also have to consider lending substantial amounts to ease a market malfunction or to provide support operations for a specific institution. Unless the increased demand for reserves is persistent, the central bank will likely want to conduct subsequent offsetting reserve-draining operations to avoid excess reserves putting downward pressure on the overnight interest rate.

Central banks therefore should have the ability to readjust their portfolios on a large scale while maintaining control over the aggregate level of reserves. Current central bank frameworks show that there are a variety of methods for achieving this. For example, central banks can maintain a sufficiently large stock of short-term repurchase agreements that can be run down; hold a substantial quantity of assets that can be redeemed for cash, used as collateral in repo operations or sold outright; or have the ability to borrow in the market.

VI.2 Policy frameworks should include the capability to conduct frequent operations against a wide range of collateral, over a wide range of maturities and with a wide range of counterparties, which should prove especially useful in dealing with extraordinary situations.

Many firms had contingency funding plans that were based on an expectation that asset market liquidity would not become impaired and that secured funding would always be available. However, many secured funding markets have been highly illiquid for several months. Where it was necessary, the widening by central banks of the set of eligible collateral made it possible for market participants to mobilise instruments whose markets had faced severe dislocation. Some central banks extended the maturity of their transactions or placed more emphasis on term operations. These actions enhanced the effectiveness of central bank efforts to address the financial market turmoil.

Operational frameworks need to be sufficiently flexible that, in stressed situations, central banks can make adjustments to increase the frequency of operations, widen the breadth of eligible collateral, the range of maturities and the range of counterparties as necessary. Central banks are reviewing, where appropriate, the adequacy of their current frameworks, including considering the experiences of other central banks.

VI.3 To deal with stressed situations, central banks should consider establishing mechanisms designed for meeting frictional funding needs that are less subject to stigma.

A standing loan facility is a widely adopted central bank instrument for providing liquidity insurance against frictional problems arising in payment systems and overnight money markets. However, some central banks found that the usefulness of this instrument was stifled by banks' unwillingness to use it. In particular, because of stigma, on some occasions there was relatively little use of standing lending facilities, even on days when interbank rates rose above the interest rates on the facilities.

Stigma can sometimes exist in normal times but increases under stress. While stigma is unavoidably associated with lending related to support operations, it can also extend to lending for purely frictional purposes. If anonymity is not well preserved, or if senior bank management and bank regulators are not completely familiar with the role of standing loan facilities for meeting frictional needs, as uncertainty mounts there is a greater risk that borrowing from a central bank loan facility would be regarded as a sign of weakness. If that were to occur, the effectiveness of the loan facility as a liquidity backstop would be severely impaired.

Central banks therefore should consider whether mechanisms can be designed for meeting liquidity needs whose use is not curtailed by excessive stigma. For example, central banks that do not already have them may wish to establish clearly separate facilities for providing loans for purely frictional lending. They may educate senior bank staff and bank regulators that borrowing is not at all discouraged, including for the purpose of relending the proceeds. Additional steps may be taken to ensure anonymity when borrowing. Auction facilities may also be useful in reducing stigma by having a large number of borrowers on a single day and by separating the bidding for funds from their receipt so that participation in the auction is not perceived to be a sign of an immediate need for funds. Banks and regulators may reduce uncertainty about banks' financial conditions through steps outlined in other sections of this report.

VI.4 Central banks should have the capacity to use a variety of instruments when illiquidity of institutions or markets threatens financial stability or the efficacy of monetary policy.

Recent events have demonstrated that central banks may need to take extraordinary actions to deal effectively with market turmoil if the risks to financial stability and to the effective transmission of monetary policy are serious enough, if there is a sufficient likelihood that central bank actions could be effective and if any anticipated costs, including those associated with moral hazard, are not too high.

As an example, during the turmoil, spreads between term money market rates and expected policy rates widened sharply as investors became hesitant to invest in unsecured money markets at anything other than the shortest horizons. Central bank operations are not generally intended to influence term rates. During the current turmoil, however,

central banks, to a greater or lesser extent, adjusted their operations to help ease the gridlock in term money markets or to reduce term spreads. This had its effect through market confidence as well as through relative supply of reserves.

The recent experience has demonstrated that central banks are ready to take extraordinary actions to respond to widespread liquidity shortages. This information necessarily affects, at least to some extent, the incentives of private market participants and, consequently, their behaviour. To address the risk that market participants will either assume more liquidity risk or weaken their own liquidity management efforts, an offsetting tightening of liquidity regulation and oversight might be appropriate.

VI.5 To deal with problems of liquidity in foreign currency, central banks should consider establishing standing swap lines among themselves. In addition, central banks should consider allowing in their own liquidity operations the use of collateral across borders and currencies.

In stressed conditions, channels used in normal times for distributing liquidity globally may face significant constraints. When international liquidity distribution is inadequate, coordination between central banks may be useful to provide funds in a foreign currency to banks with international operations where they are unable otherwise to obtain adequate access. Any such initiative would naturally need to consider carefully the macro- and microprudential implications for both home and host central banks, including the need to avoid market participants' regarding such measures as substitutes for setting up their own robust frameworks for managing risks associated with offshore transactions.

Enhancing frameworks for prompt information exchange among relevant staffs and principals across central banks is an essential starting point to enhancing coordination more broadly. The turmoil prompted central banks to have more frequent and detailed discussions about market developments and the technical aspects of open market operations, both bilaterally and collectively.

Communication intensified and improved in quality as time went on. The enhanced cooperation involved various groups of central banks, and the framework of contacts at the Bank for International Settlements was particularly important.

In December 2007, central banks initiated coordinated actions to address heightened market tensions arising from year-end funding pressures, including the establishment of swap lines between the Federal Reserve, the European Central Bank and the Swiss National Bank that enabled the ECB and SNB to provide dollar funds to their counterparties. Similar actions have been taken since March 2008. These coordinated operations, which also involved actions by other central banks to widen collateral and lengthen terms, were seen as a sign of central banks' determination to maintain control of the money market.

Going forward, the major central banks should either maintain standing swap lines or preserve the ability to establish them at short notice. To help banks to mobilise liquidity across borders, those central banks that do not already do so should consider accepting

high-quality marketable collateral denominated in foreign currencies or held in foreign locations. In the medium to long term, central banks may be able to work out other viable options for dealing with problems of liquidity in foreign currencies.

Differences in collateral frameworks across central banks may stem from differences in the structure of national financial systems. However, in some cases, less differentiated collateral frameworks could make it easier for banks, especially multinational banks, to mobilise collateral at different central banks. One possibility that major central banks may wish to consider in the longer term is conducting open market operations against, or accepting at standing facilities, a common list of high-quality collateral denominated in a range of global currencies. Central banks would need to consider the effects of broader collateral lists on markets and on banks' incentives to manage liquidity.

The FSF will review a report on progress under these recommendations before end-2008.

2. Arrangements for dealing with weak banks

Authorities will clarify and strengthen national and cross-border arrangements for dealing with weak banks.

National arrangements for dealing with weak banks have been tested by recent events and are the subject of review in some countries. Private sector solutions to resolve weak institutions are preferable wherever possible, and shareholders should not be protected by the authorities from losses. Nevertheless, issues have arisen for authorities' contingency planning, including cooperation between domestic authorities, the legal framework for intervention in banks, banks' bankruptcy regimes and deposit insurance arrangements.

During the recent turmoil, cross-border cooperation has worked satisfactorily overall between authorities, and arrangements for dealing with problems at a cross-border institution have not been tested. Nevertheless, the nature of the turmoil, the effects of which have been felt in many countries and in many different types of institutions, has emphasised the need to continue to work on crisis cooperation.

VI.6 Domestically, authorities need to review and, where needed, strengthen legal powers and clarify the division of responsibilities of different national authorities for dealing with weak and failing banks.

The diversity of national financial systems, of national arrangements for ongoing management of the system and for dealing with problem institutions, and of the impacts which the turmoil has had on individual countries and institutions mean that the domestic lessons for dealing with problem banks vary widely. The FSF has not attempted to draw lessons for individual countries but has identified some common themes.

One such area is the need to ensure that the legal and supervisory framework for dealing with weak and failing banks is well defined, clear and enables prompt action. National

FINANCIAL STABILITY FORUM

authorities should therefore review their national frameworks to ensure that they have an adequate range of tools to deal with problem banks, in order to minimise market and public uncertainty relating to the resolution, risks of contagion to other banks and potential damage to financial stability. This may be particularly valuable in countries where arrangements for resolving a problem bank have not been tested for some time, or have only been tested in isolated cases.

The domestic allocation of responsibilities among supervisors, regulators, central banks and finance ministers needs to be clear. Prompt, adequate sharing of information between central banks and supervisors will be needed in cases where liquidity and the balance-sheet health of institutions are both involved, so as to ensure that institutions are able to fulfil their responsibilities.

VI.7 Internationally, authorities should accelerate work to share information on national arrangements for dealing with problem banks and catalogue cross-border issues, and then decide how to address the identified challenges.

Work has taken place in a number of international fora in recent years to share information and discuss issues relating to the resolution of problem banks, including potential cross-border issues that could arise. A number of long-standing issues and legal uncertainties have been identified.

A working group of the BCBS is currently taking stock of existing resolution policies, allocation of responsibilities and legal frameworks of various countries as a foundation to a better understanding of the potential impediments and possible improvements to cooperation in the resolution of cross-border banks. In doing so, it is building on the work that has been done by previous groups. The group aims to produce an initial internal report by November 2008.

The BCBS exercise provides a useful basis from which to accelerate work to catalogue cross-border issues and address the identified challenges. Authorities need to agree a work plan to take these issues forward.

<p>Authorities will review and, where necessary, strengthen deposit insurance arrangements.</p>
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Events during the recent turmoil have illustrated the importance of effective depositor compensation arrangements in giving depositors confidence, thereby reducing the likelihood of a run on the bank, and in supporting confidence in the financial system as a whole.

An explicit and limited-coverage deposit insurance system clarifies the authorities' obligations to depositors, limits the uncertainty that arises from the scope for discretionary decisions, can promote public confidence, helps to contain the costs of resolving failed institutions and can provide countries with an orderly process for dealing

with bank failures. To be credible and minimise moral hazard, deposit insurance systems must be properly designed, well implemented and understood by the public. To be effective, the deposit insurance function needs to be part of a well-designed financial safety net, supported by strong prudential regulation and supervision, effective laws that are enforced, and sound accounting and disclosure regimes.

Authorities need to review their deposit insurance arrangements, and where necessary strengthen them, using international principles as a benchmark.

VI.8 Authorities should agree a set of international principles for deposit insurance systems.

To date, national deposit insurance systems have lacked a clear international benchmark against which to judge the effectiveness of their own system.

Authorities should agree on an international set of principles for effective deposit insurance systems. These principles should recognise that there may be a variety of different designs for deposit insurance arrangements that meet the objectives behind the principles, and therefore should be adaptable to a broad range of country circumstances. The development of the principles should also take close account of the broader characteristics of safety net arrangements, including those of the regulatory and supervisory framework and of resolution procedures for failing institutions. The International Association of Deposit Insurers has developed a draft set of core principles that provide a possible basis for internationally agreed principles.

VI.9 National deposit insurance arrangements should be reviewed against these agreed international principles, and authorities should strengthen arrangements where needed.

Once international deposit insurance principles are agreed, the FSF should encourage individual countries' national arrangements to be reviewed against these principles, either by countries themselves or by some international body, in the same way that the IMF and World Bank assess compliance with core principles in other areas.

Where weaknesses are identified, national authorities should initiate measures to promptly address those weaknesses.

In the meantime, given the importance of public confidence, national authorities should not delay planned reviews of their national arrangements to await a mechanism for approval of international principles and review of national arrangements against them. Rather, national reviews should take place at an early stage, to identify areas for enhancing arrangements.

Authorities will strengthen cross-border cooperation in crisis management.

The continuing globalisation of markets and of institutions calls for greater cooperation between authorities in crisis management. This needs to extend beyond the clarification

FINANCIAL STABILITY FORUM

and strengthening of national legal and regulatory arrangements for resolving problem institutions to include active cooperation in strengthening cross-border crisis management arrangements more generally. In this context, an important step was taken with the signing in April 2008 of a Memorandum of Understanding on cross-border financial stability cooperation between the supervisory authorities, central banks and finance ministries of the European Union.

VI.10 For the largest cross-border financial firms, the most directly involved supervisors and central banks should establish a small group to address specific cross-border crisis management planning issues. It should hold its first meeting before end-2008.

In authorities' planning for managing a potential crisis at a major cross-border firm, there will be some planning issues that are of general applicability across firms and across countries, while others will be specific to the structure of the individual firm and will be likely to be most felt in a small number of countries.

In the near term, crisis management planning issues relating to cross-border firms can be most practically and flexibly addressed by a small group of the most directly involved authorities, including central banks and supervisors, between which there are mutually systemic institutional or capital market links. Such a group, with its focus on crisis planning, would complement the focus of supervisory colleges on issues of ongoing supervision. This could enable enhanced practical information sharing, impact assessment and coordination in a crisis. Issues specific to each firm will be more readily dealt with once this knowledge base is in place and can be addressed as needs arise.

VI.11 Authorities should share international experiences and lessons about crisis management. These experiences should be used as the basis to extract some good practices of crisis management that are of wide international relevance.

Authorities have individually accumulated a wide variety of experiences and lessons about crisis management, either directly from crisis incidents or from national planning arrangements and simulation exercises. These experiences relate not only to problem institutions but to other forms of crisis, such as problems in markets or business continuity and other operational problems. Such information is shared internationally in a number of fora, but there has been little systematic attempt to extract lessons and good practices of common international relevance.

Authorities should build on the existing sharing of information, in both regional and wider international fora, to extract such good practices. Individual countries should then review how to incorporate these lessons so as to enhance their existing planning.

List of recommendations⁶

II. Strengthened prudential oversight of capital, liquidity and risk management

Capital requirements		
The Basel II capital framework needs timely implementation. Supervisors will assess the impact of the implementation.		
II.1 The Basel II capital framework needs timely implementation.	National supervisors	2008 -
II.2 Supervisors will assess the impact of Basel II implementation on banks' capital levels and will decide whether additional capital buffers are needed.	National supervisors, BCBS	2008 -
Supervisors will strengthen the Basel II capital treatment of structured credit and securitisation activities.		
II.3 The BCBS will issue proposals in 2008 to raise capital requirements for certain complex structured credit products such as CDOs of asset-backed securities (ABSs).	BCBS	2008
II.4 The BCBS and IOSCO will issue proposals in 2008 to introduce additional capital requirements for credit exposures in the banks' and securities firms' trading books.	BCBS, IOSCO	2008
II.5 The BCBS will issue proposals in 2008 to strengthen the capital treatment for banks' liquidity facilities to off-balance sheet ABCP conduits.	BCBS	2008
Supervisors will continue to update the risk parameters and other provisions of the Basel II framework as needed.		
II.6 Supervisors will continue to update the risk parameters and other provisions of the Basel II framework to ensure that its incentives remain adequate, and will rigorously assess banks' compliance with the framework.	BCBS, national supervisors	2008 -
II.7 Supervisors will assess the cyclical nature of the Basel II framework and take additional measures as appropriate.	BCBS	2009 -

⁶ In the third column, the timeline for those recommendations for which work is expected to be continued over time is represented by adding a dash (-) after the date when the implementation is expected to start.

FINANCIAL STABILITY FORUM

Authorities should ensure that the capital buffers for monoline insurers and financial guarantors are commensurate with their role in the financial system.		
II.8 Insurance supervisors should strengthen the regulatory and capital framework for monoline insurers in relation to structured credit.	National supervisors, IAIS	2008 -
Liquidity management		
Supervisors will issue for consultation sound practice guidance on the management and supervision of liquidity by July 2008.		
II.9 The BCBS will issue for consultation sound practice guidance on the management and supervision of liquidity by July 2008.	BCBS	July 2008
II.10 National supervisors should closely check banks' implementation of the updated guidance as part of their regular supervision. If banks' implementation of the guidance is inadequate, supervisors will take more prescriptive action to improve practices.	National supervisors	2008 -
II.11 Supervisors and central banks will examine the scope for additional steps to promote more robust and internationally consistent liquidity approaches for cross-border banks. This will include the scope for more convergence around liquidity supervision as well as central bank liquidity operations.	BCBS, national supervisors, central banks	2008-09
Supervisory oversight of risk management, including of off-balance sheet entities		
Supervisors will use Pillar 2 to strengthen banks' risk management practices, to sharpen banks' control of tail risks and mitigate the build-up of excessive exposures and risk concentrations.		
II.12 National supervisors will use the flexibility within Basel II to ensure that risk management, capital buffers and estimates of potential credit losses are appropriately forward-looking and take account of uncertainties associated with models, valuations and concentration risks and expected variations through the cycle. National supervisors will report to the BCBS with a view to ensuring a level playing field and the BCBS will share its findings and actions with the FSF.	National supervisors, BCBS	2008-09
II.13 Supervisors will strengthen guidance relating to the management of firm-wide risks, including concentration risks.	BCBS, national supervisors	2008-09

FINANCIAL STABILITY FORUM

II.14 Supervisors will strengthen stress testing guidance for risk management and capital planning purposes.	BCBS, national supervisors	2008-09
II.15 Supervisory guidance will require banks to manage off-balance sheet exposures appropriately.	BCBS, national supervisors	2008-09
II.16 Supervisors will issue guidance to strengthen risk management relating to the securitisation business.	BCBS, national supervisors	2008-09
II.17 Supervisors will strengthen their existing guidance on the management of exposures to leveraged counterparties.	National supervisors	2008-09
Relevant regulators should strengthen the requirements for institutional investors' processes for investment in structured products.		
II.18 Regulators of institutional investors should strengthen the requirements or best practices for firms' processes for investment in structured products.	National regulators	2009
The financial industry should align compensation models with long-term, firm-wide profitability. Regulators and supervisors should work with market participants to mitigate the risks arising from inappropriate incentive structures.		
II.19 Regulators and supervisors should work with market participants to mitigate the risks arising from remuneration policies.	National regulators, supervisors	2008 -
Operational infrastructure for OTC derivatives		
Market participants should act promptly to ensure that the settlement, legal and operational infrastructure underlying OTC derivatives markets is sound.		
II.20 Market participants should amend standard credit derivative trade documentation to provide for cash settlement of obligations stemming from a credit event, in accordance with the terms of the cash settlement protocol that has been developed, but not yet incorporated into standard documentation.	Market participants	2008
II.21 Market participants should automate trade novations and set rigorous standards for the accuracy and timeliness of trade data submissions and the timeliness of resolutions of trade matching errors for OTC derivatives.	Market participants	2008
II.22 The financial industry should develop a longer-term plan for a reliable operational infrastructure supporting OTC derivatives.	Financial industry	2008 -

III. Enhancing transparency and valuation

Risk disclosures by market participants		
Financial institutions should strengthen their risk disclosures and supervisors should improve risk disclosure requirements under Pillar 3 of Basel II.		
III.1 The FSF strongly encourages financial institutions to make robust risk disclosures using the leading disclosure practices summarised in this report, at the time of their upcoming mid-year 2008 reports.	Financial institutions	Mid-2008
III.2 Going forward, investors, financial industry representatives and auditors should work together to provide risk disclosures that are most relevant to the market conditions at the time of the disclosure.	Financial industry representatives, auditors	2008 -
III.3 The BCBS will issue by 2009 further guidance to strengthen disclosure requirements under Pillar 3 of Basel II.	BCBS	2009
Accounting and disclosure standards for off-balance sheet entities		
III.4 The IASB should improve the accounting and disclosure standards for off-balance sheet vehicles on an accelerated basis and work with other standard setters toward international convergence.	IASB	2008-09
Valuation		
International standard setters should enhance accounting, disclosure and audit guidance for valuations. Firms' valuation processes and related supervisory guidance should be enhanced.		
III.5 The IASB will strengthen its standards to achieve better disclosures about valuations, methodologies and the uncertainty associated with valuations.	IASB	2008-09
III.6 The IASB will enhance its guidance on valuing financial instruments when markets are no longer active. To this end, it will set up an expert advisory panel in 2008.	IASB	2008-09
III.7 Financial institutions should establish rigorous valuation processes and make robust valuation disclosures.	Financial institutions	2008

FINANCIAL STABILITY FORUM

III.8 The BCBS will issue for consultation guidance to enhance the supervisory assessment of banks' valuation processes and reinforce sound practices in 2008.	BCBS	2008
III.9 The International Auditing and Assurance Standards Board (IAASB), major national audit standard setters and relevant regulators should consider the lessons learned during the market turmoil and, where necessary, enhance the guidance for audits of valuations of complex or illiquid financial products and related disclosures.	IAASB, major national audit standard setters, relevant regulators	2008-09
Transparency in securitisation processes and markets		
Securities market regulators should work with market participants to expand information on securitised products and their underlying assets.		
III.10 Originators, arrangers, distributors, managers and CRAs should strengthen transparency at each stage of the securitisation chain, including by enhancing and standardising information on an initial and ongoing basis about the pools of assets underlying structured credit products.	Originators, arrangers, distributors, managers and CRAs	2008
III.11 Originators and issuers of securitised products should be transparent about the underwriting standards for the underlying assets. They should also make available to investors and CRAs the results of their own due diligence.	Originators, issuers	2008
III.12 Investors, and their asset managers, should obtain from sponsors and underwriters of structured credit products access to better information about the risk characteristics of the credits, including information about the underlying asset pools, on an initial and ongoing basis.	Investors and their asset managers	2008
III.13 Securities market regulators will work with market participants to study the scope to set up a comprehensive system for post-trade transparency of the prices and volumes traded in secondary markets for credit instruments.	Securities market regulators, market participants	2008-09

IV. Changes in the role and uses of credit ratings

Quality of the rating process		
CRAs should improve the quality of the rating process and manage conflicts of interest in rating structured products.		
IV.1 IOSCO will revise its Code of Conduct Fundamentals for Credit Rating Agencies by mid-2008.	IOSCO	Mid-2008
IV.2 CRAs should quickly revise their codes of conduct to implement the revised IOSCO CRA Code of Conduct Fundamentals. Authorities will monitor, individually or collectively, the implementation of the revised IOSCO Code of Conduct by CRAs, in order to ensure that CRAs quickly translate it into action.	CRAs, authorities	2008 -
IV.3 CRAs should demonstrate that they have the ability to maintain the quality of their service in the face of rapid expansion of their activities, and allocate adequate resources to both the initial rating and to the rating's regular review.	CRAs	2008 -
Differentiated ratings and expanded information on structured products		
CRAs should differentiate ratings on structured finance from those on bonds, and expand the initial and ongoing information provided on the risk characteristics of structured products.		
IV.4 CRAs should clearly differentiate, either with a different rating scale or with additional symbols, the ratings used for structured products from those for corporate bonds, subject to appropriate notification and comment.	CRAs	2008 -
IV.5 CRAs should expand the initial and ongoing information that they provide on the risk characteristics of structured products.	CRAs	2008 -
CRA assessment of underlying data quality		
CRAs should enhance their review of the quality of the data input and of the due diligence performed on underlying assets by originators, arrangers and issuers involved in structured products.		
IV.6 CRAs should review the quality of the data input and the due diligence performed by originators, arrangers and issuers.	CRAs	2008 -

FINANCIAL STABILITY FORUM

Uses of ratings by investors and regulators		
Investors should address their over-reliance on ratings. Investor associations should consider developing standards of due diligence and credit analysis for investing in structured products.		
IV.7 Investors should reconsider how they use credit ratings in their investment guidelines and mandates and for risk management and valuation. Ratings should not replace appropriate risk analysis and management on the part of investors. Investors should conduct risk analysis commensurate with the complexity of the structured product and the materiality of their holding, or refrain from such investments.	Investors	2008 -
Authorities will review their use of ratings in the regulatory and supervisory framework.		
IV.8 Authorities should check that the roles that they have assigned to ratings in regulations and supervisory rules are consistent with the objectives of having investors make independent judgment of risks and perform their own due diligence, and that they do not induce uncritical reliance on credit ratings as a substitute for that independent evaluation.	International committees, national authorities	2008 -

V. Strengthening the authorities' responsiveness to risks

Translating risk analysis into action		
Supervisors, regulators and central banks – individually and collectively – will take additional steps to more effectively translate their risk analysis into actions that mitigate those risks.		
V.1 Supervisors should see that they have the requisite resources and expertise to oversee the risks associated with financial innovation and to ensure that firms they supervise have the capacity to understand and manage the risks.	National supervisors	2008 -
V.2 Supervisors and regulators should formally communicate to firms' boards and senior management at an early stage their concerns about risk exposures and the quality of risk management and the need for firms to take responsive action. Those supervisors who do not already do so should adopt this practice.	National supervisors and regulators	2008 -

FINANCIAL STABILITY FORUM

V.3 At the international level, the FSF will give more force to its own risk analysis and recommendations, both directly and through the actions of its members, by initiating and following up action to investigate and mitigate risk.	FSF	2008 -
V.4 The FSF will establish a mechanism for regular interaction at senior level with private sector participants, including investors and CRAs, for prompting mitigating actions to identified risks and weaknesses.	FSF	2008
Improving information exchange and cooperation among authorities		
Authorities' exchange of information and cooperation in the development of good practices will be improved at national and international levels.		
V.5 The use of international colleges of supervisors should be expanded so that, by end-2008, a college exists for each of the largest global financial institutions.	National supervisors	2008
V.6 Supervisors involved in these colleges should conduct an exercise, by 2009, to draw lessons about good practices.	National supervisors	2009
V.7 To quicken supervisory responsiveness to developments that have a common effect across a number of institutions, supervisory exchange of information and coordination in the development of best practice benchmarks should be improved at both national and international levels.	National supervisors	2008 -
V.8 Supervisors and central banks should improve cooperation and the exchange of information including in the assessment of financial stability risks. The exchange of information should be rapid during periods of market strain.	National supervisors, central banks	2008 -
V.9 To facilitate central bank mitigation of market liquidity strains, large banks will be required to share their liquidity contingency plans with relevant central banks.	National supervisors, central banks, large banks	2008
Enhancing international bodies' policy work		
International bodies will enhance the speed, prioritisation and coordination of their policy development work.		
V.10 International regulatory, supervisory and central bank committees will strengthen their prioritisation of issues and, for difficult to resolve issues, establish mechanisms for escalating them to a senior decision-making level. As part of this effort, they will establish timetables for required action and action plans for addressing delayed or difficult issues.	International committees	2008 -

FINANCIAL STABILITY FORUM

V.11 National supervisors will, as part of their regular supervision, take additional steps to check the implementation of guidance issued by international committees.	National supervisors	2008 -
V.12 The FSF will encourage joint strategic reviews by standard-setting committees to better ensure policy development is coordinated and focused on priorities.	FSF	2008 -
V.13 The FSF and IMF will intensify their cooperation on financial stability, with each complementing the other's role. As part of this, the IMF will report the findings from its monitoring of financial stability risks to FSF meetings, and in turn will seek to incorporate relevant FSF's conclusions into its own bilateral and multilateral surveillance work.	FSF/IMF	2008 -

VI. Robust arrangements for dealing with stress in the financial system

Central bank operations		
Central bank operational frameworks should be sufficiently flexible in terms of potential frequency and maturity of operations, available instruments, and the range of counterparties and collateral, to deal with extraordinary situations.		
VI.1 To meet an increased but uncertain demand for reserves, monetary policy operational frameworks should be capable of quickly and flexibly injecting substantial quantities of reserves without running the risk of driving overnight rates substantially below policy targets for significant periods of time.	Central banks	2008
VI.2 Policy frameworks should include the capability to conduct frequent operations against a wide range of collateral, over a wide range of maturities and with a wide range of counterparties, which should prove especially useful in dealing with extraordinary situations.	Central banks	2008
VI.3 To deal with stressed situations, central banks should consider establishing mechanisms designed for meeting frictional funding needs that are less subject to stigma.	Central banks	2008
VI.4 Central banks should have the capacity to use a variety of instruments when illiquidity of institutions or markets threatens financial stability or the efficacy of monetary policy.	Central banks	2008

FINANCIAL STABILITY FORUM

VI.5 To deal with problems of liquidity in foreign currency, central banks should consider establishing standing swap lines among themselves. In addition, central banks should consider allowing in their own liquidity operations the use of collateral across borders and currencies.	Central banks	2008-09
Arrangements for dealing with weak banks		
Authorities will clarify and strengthen national and cross-border arrangements for dealing with weak banks.		
VI.6 Domestically, authorities need to review and, where needed, strengthen legal powers and clarify the division of responsibilities of different national authorities for dealing with weak and failing banks.	National supervisors, central banks, governments	2008-09
VI.7 Internationally, authorities should accelerate work to share information on national arrangements for dealing with problem banks and catalogue cross-border issues, and then decide how to address the identified challenges.	National authorities, BCBS	2008
Authorities will review and, where necessary, strengthen deposit insurance arrangements.		
VI.8 Authorities should agree a set of international principles for deposit insurance systems.	National authorities	2008-09
VI.9 National deposit insurance arrangements should be reviewed against these agreed international principles, and authorities should strengthen arrangements where needed.	National authorities	2008-09
Authorities will strengthen cross-border cooperation in crisis management.		
VI.10 For the largest cross-border financial firms, the most directly involved supervisors and central banks should establish a small group to address specific cross-border crisis management planning issues. It should hold its first meeting before end-2008.	Relevant central banks and national supervisors	2008
VI.11 Authorities should share international experiences and lessons about crisis management. These experiences should be used as the basis to extract some good practices of crisis management that are of wide international relevance.	National supervisors, central banks	2008-09

Leading Practice Disclosures for Selected Exposures

III.1 The FSF strongly encourages financial institutions to make robust risk disclosures using the leading disclosure practices summarised in this report, at the time of their upcoming mid-year 2008 reports.

The recent market turmoil has heightened the desirability for financial firms to publicly disclose their exposures to certain instruments that the marketplace now considers to be high-risk or involve more risk than previously thought, including collateralised debt obligations (CDOs), residential mortgage-backed securities (RMBSs), commercial mortgage-backed securities (CMBS), other special purpose entities (SPEs) and leveraged finance. In response, many financial firms have recently enhanced their disclosures of these exposures.

Some examples of leading practice risk disclosures in current market conditions have been set forth in a supervisory report on recent quantitative and qualitative disclosures by a sample of global banks and securities firms. The table below highlights these disclosures; it is followed by a brief discussion that describes the individual disclosures. In addition to the information in the table, many of the firms first disclosed the following details for each and all of the categories:

- Total exposure, including on- and off-balance sheet analysis (as well as funded and committed lines, if applicable)
- Exposure before and after hedging
- Exposure before and after write-downs

Additional specificity has been provided through varying combinations of the disclosures contained in the table.

<p><u>Special Purpose Entities (SPEs) - General</u></p> <ul style="list-style-type: none"> • Size of SPE vs firm’s total exposure • Activities of SPE • Reason for consolidation (if applicable) • Nature of exposure (sponsor, liquidity and/or credit enhancement provider) • Collateral type • Geographic distribution of collateral • Average maturities of collateral • Credit ratings of underlying collateral <p><u>Other Subprime and Alt-A Exposure</u></p> <ul style="list-style-type: none"> • Whole loans, RMBS, derivatives, other • Detail on credit quality (e.g., credit rating, loan-to-value ratios, performance measures) • Breakdown of subprime mortgage exposure by vintage • Sensitivity of valuation to changes in key assumptions and inputs 	<p><u>Collateralised Debt Obligations</u></p> <ul style="list-style-type: none"> • Size of CDOs vs firm’s total exposure • Breakdown of CDOs – type, tranche, rating, etc. • Breakdown of collateral by type • Breakdown of subprime mortgage exposure by vintage • Hedges, including exposures to monolines, other counterparties • Creditworthiness of hedge counterparties • Credit valuation adjustments for specific counterparties • Sensitivity of valuation to changes in key assumptions and inputs <p><u>Commercial Mortgage-Backed Securities</u></p> <ul style="list-style-type: none"> • Breakdown of collateral by industry • Breakdown of collateral by geography • Change in exposure from the prior period, including sales and write-downs <p><u>Leveraged Finance</u></p> <ul style="list-style-type: none"> • Funded exposure and unfunded commitments • Change in exposure from prior period(s), including sales and write-downs • Distribution of exposure by industry • Distribution of exposure by geography
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Special Purpose Entities - General

- A summarisation of exposures to the SPEs with which the firm is involved, distinguishing between those that are consolidated and those that are not consolidated.⁷ These generally include CDOs, asset-backed commercial paper (ABCP), structured investment vehicles (SIVs), and a variety of other SPEs. If circumstances require that a particular SPE move from off-balance sheet to on-balance sheet status, that is noted.

⁷ Whether a SPE is consolidated depends on the applicable accounting standard; thus, a particular SPE may be consolidated in one jurisdiction and not consolidated in another.

FINANCIAL STABILITY FORUM

- The size and activities of the SPEs.
- The nature of the firm's involvement with particular categories of SPEs and its maximum exposure to loss as a result of its involvement with each category.
- Breakdowns of assets underlying SIVs and ABCP conduits by collateral type, credit rating, and geographical location of the ultimate borrowers and the average maturity of their obligations.

Collateralised Debt Obligations

- The total of the firm's exposure to CDOs and a breakdown of this exposure according to the firm's internal methodology, e.g., a breakdown of super-senior exposures to high-grade, mezzanine and CDO-squared underlying.
- Separate data for CDOs whose ultimate underlying collateral is of particular concern to the markets (e.g., subprime residential mortgages) and other CDOs. More generally, discussion that informs market participants how the firm determines a CDO to be a "subprime mortgage CDO" (e.g., the percentage of ultimate collateral that is comprised of subprime mortgages).
- CDO exposure before and after hedging, including exposures to financial guarantors, showing the notional amount of protection bought from individual guarantors and the fair value of such exposure both before and after credit valuation adjustments, if any.⁸
- Data pertaining to the creditworthiness of the CDOs, e.g., mark-to-market or other write-downs from face value, broken down according to the firm's methodology, and the vintage of the underlying subprime mortgages.
- The methodology for the valuation of the instruments and the primary drivers of the valuation.

Other Subprime Exposures

- Exposure to sub-prime mortgages not in CDOs, whether whole loans, RMBS, via derivatives or commitments, both before and after hedging, together with data indicating their creditworthiness, e.g., write-downs or credit ratings.
- Similar data for Alt-A mortgages.
- The sensitivity of the valuation of RMBS to changes in assumptions, such as prepayment rates, credit losses and the discount rate, broken down by the quality of the mortgages.

Commercial Mortgage-Backed Securities

- Exposure to CMBS, both before and after the effect of hedging and including breakdowns by industry of the underlying collateral and geographical area.

⁸ Exposure to financial guarantors may result from subprime RMBS carried directly on the firm's balance sheet, as well as from CDO transactions.

FINANCIAL STABILITY FORUM

Leveraged Finance

- On- and off-balance sheet exposure to leveraged finance, together with elaboration, e.g., write-downs and distributions over industries and geographical areas.

Members of the Working Group on Market and Institutional Resilience

This report has been developed by a working group of the FSF. Its members are listed below.

Chair	Mario Draghi Governor Banca d'Italia
Canada	Julie Dickson Superintendent Office of the Superintendent of Financial Institutions
France	Jean-Pierre Landau Deputy Governor Banque de France/Commission Bancaire
Germany	Jochen Sanio President BaFin Hermann Remsperger Member of the Executive Board Deutsche Bundesbank
Japan	Takafumi Sato Commissioner Financial Services Agency
Switzerland	Philipp Hildebrand Vice Chairman of the Governing Board Swiss National Bank
United Kingdom	Callum McCarthy Chairman Financial Services Authority John Gieve Deputy Governor Bank of England

FINANCIAL STABILITY FORUM

United States	Christopher Cox Chairman US Securities and Exchange Commission
BCBS	Nout Wellink Chairman (President, Netherlands Bank)
BIS	Malcolm Knight General Manager
CGFS	Donald Kohn Chairman (Vice Chairman, Federal Reserve Board)
CPSS	Timothy Geithner Chairman (President, Federal Reserve Bank of New York)
ECB	Lucas Papademos Vice President
IMF	Jaime Caruana Director, Monetary and Capital Markets Department
Joint Forum	John Dugan Chairman (Comptroller of the Currency Office of the Comptroller of the Currency)
IOSCO	Michel Prada Chairman of the Technical Committee (President, Autorité des Marchés Financiers)
IASB	John Smith Board Member
Secretariat	Svein Andresen Arthur Angulo Patrizia Baudino Benjamin H. Cohen Gerald Edwards, Jr. Atsushi Mimura Rupert Thorne

List of reports

The FSF Working Group has drawn on the following published or forthcoming reports in the development of this report.

Basel Committee on Banking Supervision

- Liquidity Risk: Management and Supervisory Challenges, February 2008
<http://www.bis.org/publ/bcbs136.htm>
- Fair value measurement and modelling: A survey of banks' processes, implementation challenges and initial lessons learned from the recent market stress, forthcoming
- Guidelines for Computing Capital for Incremental Default Risk in the Trading Book – consultative document, October 2007
<http://www.bis.org/publ/bcbs134.htm>

Senior Supervisors Group

- Observation on risk management practices during the recent market turbulence, March 2008
http://www.newyorkfed.org/newsevents/news/banking/2008/SSG_Risk_Mgt_doc_final.pdf
- Leading-Practice Disclosures for Selected Exposures, April 2008
http://www.newyorkfed.org/newsevents/news/banking/2008/SSG_Leading_Practice_Disclosures.pdf

International Organization of Securities Commissions

- Consultation Report, The role of credit rating agencies in structured finance markets, March 2008
<http://www.iosco.org/library/pubdocs/pdf/IOSCOPD263.pdf>
- Subprime Task Force Report, forthcoming

Joint Forum

- Credit Risk Transfer – Developments from 2005 to 2007, April 2008
<http://www.bis.org/publ/joint18.htm>
- Cross sectoral review of group-wide identification and management of risk concentration, forthcoming

Committee on the Global Financial System

- Interim Report by the study group on ratings in structured finance, forthcoming
- The President's Working Group on Financial Markets, report, March 2008
http://www.ustreas.gov/press/releases/reports/pwgpolicystatemktturmoil_03122008.pdf

International Monetary Fund

- Global Financial Stability Report, April 2008
<http://www.imf.org/external/pubs/ft/gfsr/2008/01/index.htm>

Bank for International Settlements

- Quarterly Review, March 2008
http://www.bis.org/publ/qtrpdf/r_qt0803.htm

FSF member institutions**National Authorities*****Australia***

Reserve Bank of Australia

Canada

Department of Finance

Bank of Canada

Office of the Superintendent of Financial
Institutions***France***

Ministry of the Economy, Finance and Industry

Banque de France

Autorité des Marchés Financiers

Germany

Federal Ministry of Finance

Deutsche Bundesbank

BaFin

Hong Kong

Hong Kong Monetary Authority

Italy

Ministry of the Economy and Finance

Banca d'Italia

CONSOB

Japan

Ministry of Finance

Bank of Japan

Financial Services Agency

Netherlands

De Nederlandsche Bank

Singapore

Monetary Authority of Singapore

Switzerland

Swiss National Bank

United Kingdom

H M Treasury

Bank of England

Financial Services Authority

United States

Department of the Treasury

Board of Governors of the Federal
Reserve System

Securities and Exchange Commission

International Financial Institutions

International Monetary Fund

World Bank

Bank for International Settlements

Organisation for Economic Co-operation and
Development**International Regulatory and Supervisory
Groupings**

Basel Committee on Banking Supervision

International Accounting Standards Board

International Association of Insurance Supervisors

International Organization of Securities
Commissions**Committees of Central Bank Experts**Committee on Payment and Settlement
Systems

Committee on the Global Financial System

European Central Bank