Senior Supervisors Group

Risk Management Lessons from the Global Banking Crisis of 2008

October 21, 2009

CANADA
Office of the Superintendent of Financial Institutions

FRANCE
Banking Commission

GERMANY
Federal Financial Supervisory Authority

JAPAN
Financial Services Agency

SWITZERLAND
Financial Market Supervisory Authority

UNITED KINGDOM
Financial Services Authority

UNITED STATES
Board of Governors of the Federal Reserve System

Federal Reserve Bank of New York

Office of the Comptroller of the Currency

Securities and Exchange Commission

SENIOR SUPERVISORS GROUP

October 21, 2009

Mr. Mario Draghi, Chairman
Financial Stability Board
Bank for International Settlements
Centralbahnplatz 2
CH-4002 Basel
Switzerland

Dear Mr. Draghi:

On behalf of the Senior Supervisors Group (SSG), I am writing to convey *Risk Management Lessons from the Global Banking Crisis of 2008*, a report that reviews in depth the funding and liquidity issues central to the recent crisis and explores critical areas of risk management practice warranting improvement across the financial services industry. This report is a companion and successor to our first report, *Observations on Risk Management Practices during the Recent Market Turbulence*, issued in March 2008.

The events of 2008 clearly exposed the vulnerabilities of financial firms whose business models depended too heavily on uninterrupted access to secured financing markets, often at excessively high leverage levels. This dependence reflected an unrealistic assessment of liquidity risks of concentrated positions and an inability to anticipate a dramatic reduction in the availability of secured funding to support these assets under stressed conditions. A major failure that contributed to the development of these business models was weakness in funds transfer pricing practices for assets that were illiquid or significantly concentrated when the firm took on the exposure. Some improvements have been made, but instituting further necessary improvements in liquidity risk management must remain a key priority for financial services firms.

In the attached report, we identify various other deficiencies in the governance, firm management, risk management, and internal control programs that contributed to, or were revealed by, the financial and banking crisis of 2008. Our report highlights a number of areas of weakness that require further work by the firms to address, including the following (in addition to the liquidity risk management issues described above):

- the failure of some boards of directors and senior managers to establish, measure, and adhere to a level of risk acceptable to the firm;
- compensation programs that conflicted with the control objectives of the firm;
- inadequate and often fragmented technological infrastructures that hindered effective risk identification and measurement; and
- institutional arrangements that conferred status and influence on risk takers at the expense of independent risk managers and control personnel.

In highlighting the areas where firms must make further progress, we seek to raise awareness of the continuing weaknesses in risk management practice across the industry and to evaluate critically firms' efforts to address these weaknesses. Moreover, the observations in this report support the ongoing efforts of supervisory agencies to define policies that enhance financial institution resilience and promote global financial stability.

This analysis builds upon the first SSG report, which identified a number of risk management practices that enabled some global financial services organizations to withstand market stresses better than others through the end of 2007. The extraordinary market developments that transpired following the release of the first report prompted the SSG to launch two new initiatives. First, the group conducted interviews with thirteen firms at the end of 2008 to review specific funding and liquidity risk management challenges faced, and lessons learned, during the year. Second, in our supervisory capacities, we asked twenty global financial institutions in our respective jurisdictions to assess during the first quarter of 2009 their risk management practices against a compilation of recommendations and observations drawn from several industry and supervisory studies published in 2008. During the spring of 2009, SSG members reviewed the assessments and held follow-up interviews with fifteen of these firms to explore areas of continued weakness, as well as changes to practice undertaken recently. This report presents the SSG's primary findings from these initiatives.

In their self-assessments, firms generally indicated that they had either fully or partially complied with most of the recommendations. SSG members, however, found that the assessments were, in aggregate, too positive and that firms still had substantial work to do before they could achieve complete alignment with the recommendations and observations of the studies. In particular, supervisors believe that a full and ongoing commitment to risk control by management, as well as the dedication of considerable resources toward developing the necessary information technology infrastructure, will be required to ensure that the gaps between actual and recommended practice are closed in a manner that is robust and, especially important, sustainable.

As with the first report, we are simultaneously releasing our findings to relay the conclusions of our initiatives to the broader industry and to call attention to critical areas of risk management in which further effort is warranted.

Sincerely,

William L. Rutledge
Chairman

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I. INTRODUCTION

On March 6, 2008, the Senior Supervisors Group (SSG) released its first report, *Observations on Risk Management Practices during the Recent Market Turbulence* (the first report). The report conveyed our assessment of the risk management practices that made some firms better able than others to withstand market stresses in the fall of 2007. At that time, firms faced the collapse of the leveraged loan market, a near total loss of liquidity in the asset-backed commercial paper market, and a sharp loss in the value of subprime mortgages and of certain structured products such as collateralized debt obligations and securities backed by subprime mortgages. These and other significant difficulties undermined the confidence of investors and counterparties, challenged the resilience of highly interconnected global financial institutions, and destabilized the global financial system, setting the stage for a deep financial crisis.

Following the release of our first report, the decline in housing prices became even more pronounced, triggering a far greater loss of value in mortgage-related exposures and other financial assets and ultimately leading to a weakening of the global economy. Financial losses and public concern grew to the point that investors doubted the accuracy of firms balance sheets and ultimately their creditworthiness. Around the globe, large financial firms failed, were forced to negotiate their sale to others, or restructured themselves. In other cases, public authorities undertook extraordinary and controversial measures to alleviate the stress, not just on financial organizations, but more broadly on their national economies.

In response to the continuing crisis, the SSG a forum composed of senior supervisors of major financial services firms from Canada, France, Germany, Japan, Switzerland, the United Kingdom, and the United States undertook to evaluate for a second time how weaknesses in firms risk management and internal controls may have contributed to the industry s severe distress. In this report, we review key developments since the first report, share our risk manage ment observations (primarily on funding and liquidity risk issues) for 2008, and discuss the industry s own sense of its compliance with recommendations put forward in various supervisory and industry studies in 2008.[1]

To capture the industry view, members of the SSG met with senior managers at thirteen of the largest financial institutions in late 2008 to review the funding and liquidity risk challenges they faced that year and the lessons they learned from these challenges.

In late 2008, the SSG members, in our supervisory capacity, asked twenty major global financial firms in our respective jurisdictions to assess their risk management processes to identify any gaps with previously issued industry or supervisory recommendations. The surveyed financial institutions completed these self-assessments during the first quarter of 2009 and presented the results to both their boards of directors and their primary supervisors. The primary supervisors then evaluated the quality of the assessments and held discussions with the firms on their remediation efforts. In light of the continuing stress in the financial markets, SSG members held a second round of interviews with fifteen institutions during the first half of 2009 to explore the broader lessons learned from recent events.

[1] Studies referenced in the exercise include Senior Supervisors Group, *Observations on Risk Management Practices during the Recent Market Turbulence* (March 2008); Financial Stability Forum, *Report of the Financial Stability Forum on Enhancing Market and Institutional Resilience* (April 2008); Institute of International Finance, *Final Report of the IIF Committee on Market Best Practices: Principles of Conduct and Best Practice Recommendations* (July 2008); and Credit Risk Management Policy Group III, *Containing Systemic Risk: The Road to Reform* (August 2008). In addition, U.S. firms were asked to consider recommendations and observations in President s Working Group on Financial Markets, *Policy Statement on Financial Market Developments* (March 2008).

Glossary

Term	Definition*
2a-7 funds	2a-7 money market funds are U.S. open-end management investment companies that are registered under the Investment Company Act and regulated under Rule 2a-7 under the Act. Unlike other investment companies, 2a-7 funds are able to use the amortized cost method of valuing their portfolio securities rather than mark-to-market valuation, which allows them to maintain a stable net asset value, typically U.S. $1.00 per share.
Asset-backed commercial paper	A short-term investment that encompasses the use of a special purpose vehicle or conduit; the conduit serves as the commercial paper issuer. The commercial paper is backed by physical assets such as homes, automobiles, or other physical property.
Bid-back request	An investor's request to a borrower to unwind a transaction earlier than contractually agreed upon.
Break-the-buck	A condition that occurs when a money market fund determines to discontinue the use of the amortized cost method of valuing its portfolio securities and to reprice the fund's shares below $1.00 per share.
Claw-back	A provision in a law or contract that limits or reverses a payment or distribution for specified reasons.
Commingled funds	In securities lending, commingled funds refer to a pooling of cash collateral from multiple beneficial owners/lenders that is then used to purchase securities.
Contingency funding plan	A comprehensive plan that financial institutions have in place to maintain sufficient liquidity resources in a contingency scenario. Contingency funding plans typically include cash flow projections that estimate funding needs under adverse conditions, and should present courses of action for addressing unexpected short-, medium-, and long-term liquidity needs.
Credit default swap	An agreement between two parties in which the seller provides protection to the buyer against nonpayment of unsecured corporate or sovereign debt. The "protected" party pays an initial or ongoing scheduled fee in exchange for a guarantee that, if a bond/loan goes into default, the protection seller will provide compensation.
Credit valuation adjustment	The mark-to-market estimate of the counterparty credit risk from a firm's derivatives exposures.
CUSIP number	A number identifying all stocks and registered bonds, assigned by the Committee on Uniform Securities Identification Procedures (CUSIP). Brokers use a security's CUSIP number to obtain further information on the security; the number is also listed on trade confirmation tickets. The CUSIP system makes it easier to settle and clear trades. Foreign securities use a similar identification system: the CUSIP International Numbering System, or CINS.
Daylight exposure	Credit extended for a period of less than one day. In a credit transfer system with end-of-day final settlement, daylight credit in effect is extended by a receiving institution if it accepts and acts on a payment order even though it will not receive final funds until the end of the business day.
Free credit balance	The cash held by a broker in a customer's margin account that can be withdrawn by the customer at any time without restriction. This balance is calculated as the total remaining money in a margin account after margin requirements, short-sale proceeds, and special miscellaneous accounts are taken into consideration.
Funds transfer pricing	An internal cost-accounting system or methodology that transfers a cost-of-funds expense to profit centers that generate assets requiring funding and a funds credit to profit centers that provide funding.
Haircut	The percentage by which an asset's fair market value is reduced for the purpose of calculating lendable value/borrowing capacity.
Interbank deposit	Any deposit held by one bank for another bank. In most cases, the bank for which the deposit is held is known as the correspondent bank. The interbank deposit arrangement requires both banks to hold a "due to account" for the other.
Net asset value	An investment company's total assets minus its total liabilities.

*Based on publicly available and supervisory sources.

Glossary *(Continued)*

Term	Definition*
Novation	An agreement to replace one party to a contract with a new one. The novation transfers rights as well as duties and requires the consent of both the original and new parties.
OTC derivatives market	The over-the-counter, or OTC, market where derivatives transactions are executed directly between two parties through a telephone or computer network, without use of an exchange. A derivative is a financial contract (usually a bilateral contract) whose value is derived from another asset, index, event, or condition.
Portfolio compression	A market-wide exercise to reduce the gross notional outstanding and trade population by eliminating offsetting trade positions within the same product types and across multiple counterparties. Portfolio compression thus reduces the counterparty credit exposure and operational risk attached to superfluous outstanding trade positions that offer no additional economic benefits. Currently, credit and interest rate derivatives have regular cycles for portfolio compression.
Prime brokerage	A service offered by securities firms to hedge funds and other professional investors. Prime brokerage may include execution/clearance of transactions, margin financing, centralized custody, securities lending, and other administrative services such as risk reporting. The growth of the hedge fund sector over the last decade was supported by concurrent growth in the prime brokerage business of the investment banks that service these funds.
Rehypothecation	A practice in which a prime broker can take control, and in some jurisdictions legal title, over a client's assets, subject to an obligation to return the same or economically similar assets at a future time. By taking legal title over the assets, the prime broker is free to utilize the assets as it sees fit, including the sale of such assets or the pledging of them as security for amounts borrowed from counterparties. In practice, rehypothecation rights are used by prime brokers to obtain secured funding to finance margin loans provided to clients; however, such rights also enable prime brokers to cross-fund other positions on a portfolio basis in certain circumstances. The secured funding obtained through rehypothecation rights enables a prime brokerage business to be largely self-financing, as loans to clients are funded through rehypothecation of client assets.
Repurchase agreement	An agreement between a seller and a buyer of securities in which the seller agrees to repurchase the securities at an agreed-upon price, usually at a stated time.
Reverse stress test	A stress test in which the starting point of the analysis is an assumption that over a short period of time, an institution incurs a very large, multi-billion-dollar loss. The analysis then works backward to identify how such a loss could occur given actual positions and exposures prevailing when the stress test was conducted. If the assumed loss were truly large, it is highly likely that the possible sequence of events producing the loss would entail elements of contagion or systemic forces. Thus, the reverse stress test is likely to require institutions to address issues that are not normally captured in stress tests.
Same-day matching	A process that occurs when parties to an OTC derivatives trade obtain legal confirmation of the transaction on the same day the trade is executed, also known as "T+0 matching" or "same-day confirmation." Same-day matching continues to be an operational efficiency goal for the post-trade processing of OTC derivatives.
Triparty repo	In a triparty repo model, a custodian bank helps to administer a repo (repurchase) agreement between two parties. An investor places its money with a custodian bank, which in turn lends it to another institution; assets are then pledged as collateral for the loan. The triparty agent is responsible for administration of the transaction, including collateral allocation, marking to market, and substitution of collateral. Both the lender and borrower of cash enter into these transactions to avoid the administrative burden of bilateral repos.
Upgrade trade	For less liquid securities financed on behalf of hedge fund clients, prime brokers may enter into upgrade trades. In such a trade, the less liquid securities are exchanged with certain stock lenders for more liquid securities that are then monetized by the prime broker through repurchase arrangements.
Value-at-risk	A measure of expected loss over a given time interval under normal market conditions at a specified confidence level.

*Based on publicly available and supervisory sources.