Testimony by Craig Broderick to the Senate Permanent Subcommittee on Investigations

Chairman Levin, Ranking Member Coburn and Members of the Committee:

My name is Craig Broderick. I have been the Chief Risk Officer of Goldman Sachs since 2007, and prior to that, the firm's Chief Credit Officer. I am currently responsible for credit, market and operational risk, and insurance. I will focus my remarks today on the firm's risk management framework, to supplement David Viniar's comments on this topic, and look forward to addressing in greater detail any questions you may have.

As noted by David, the nature of Goldman Sachs' role as a financial intermediary requires a willingness to take risk on behalf of our clients. We seek to do so only within carefully calibrated limits, scaled to be in line with our financial resources. Our clients expect us to facilitate transactions for them in all market conditions. As such, the better we understand and can manage risk, the more willing and able we are to transact with clients, regardless of our views on the markets.

Our risk management framework has a number of core components.

The central tenet is our daily discipline of marking all of the firm's financial assets and liabilities to current market levels. We do so because we believe it is one of the most effective tools for assessing and managing risk, providing the most transparent and realistic insight into our risk positions and associated exposures. Goldman Sachs is one of the few financial institutions in the world that carries virtually all financial instruments held in its inventory at current market value, with any changes reflected immediately in our risk management systems.

The second is independence. Professionals in our risk management and control functions have complete independence from their counterparts in the revenue generating divisions. If there is ever a question about a mark, for example, the view of the firm's Controllers group prevails. Uncompromised independence gives "teeth" to the firm's risk management approach.

The third is governance. The firm's governance structure provides the protocol and responsibility for decision-making and implementation on risk management issues. In this process we make extensive use of risk-related committees that meet regularly and serve as another important means to facilitate and promote ongoing discussions that help inform our efforts to identify, manage and mitigate potential risks.

A fourth component is our use of risk systems. We have developed and employ robust technology to track a variety of risk metrics across the firm's trading businesses. On a daily basis, risk reports are prepared and distributed to the appropriate people, and on a weekly basis to our firmwide risk committee. The effectiveness of our risk systems is greatly enhanced by the mark-to-market practices referred to earlier.

And finally, our limits structure. The firm applies a rigorous limits framework to control our risk across multiple trades, products, businesses and markets that includes setting credit and market risk limits at a variety of levels. These limits are monitored on a daily basis. Importantly, we set limits at levels that, due to a variety of factors, will be periodically exceeded, rather than at levels which reflect our maximum risk appetite. This practice encourages constant dialogue, consistent with our corporate culture, among our traders and

risk managers, as well as rapid escalation of risk-related matters. Such frequent discussions about business and market conditions, remediation plans and related topics, allow us to respond quickly and effectively in very fluid circumstances.

Taken together, these core elements enable us to make informed decisions in real time about the risks we are taking, and to rapidly attempt to make adjustments when necessary.

In terms of risk metrics and associated limits, we use a variety of measures. In the case of market risk, Value at Risk (VaR) and Credit Spread Widening (CSW) are frequently referenced. Both are highly useful, but both suffer from limitations – as in fact do all risk metrics, which is why we apply multiple measures to assess the overall risk of the portfolio. These limitations can show up particularly acutely during abnormal market conditions – which certainly characterized the 2007 through 2008 period.

By way of example, VaR is highly dependent on the market volatility of the underlying trade or product – and during 2007, volatility reached unprecedented levels in some products, especially sub-prime mortgages. This had the effect of increasing our mortgage business-related VaR by many multiples despite the underlying portfolios actually decreasing in size.

To this point, between November 24, 2006 and February 23, 2007, daily VaR in the mortgage department increased from $13 million to $85 million. We estimate that more than 100% of this increase was the result of increases in volatility – as our underlying positions in many cases declined. For that reason, an accurate assessment of the level and direction of risk in our mortgage portfolio was (and is) a matter of expert judgment, with the ultimate validation

of that assessment coming only after the fact – when one could see how the portfolio performed given actual market events.

This is not to suggest that we were unable to effectively manage risk in this environment. Our objective was to flatten risk, and in this regard we were relatively successful. It involved, however, a process of continual portfolio adjustments and metrics interpretations. For example, during much of 2007 our VaR showed our overall portfolio risk increasing and reflecting a short position, while our Credit Spread Widening measure showed the opposite. During such periods, it was ultimately the experience of our business and risk management professionals, and their appreciation for the nuances of each risk measure, that helped guide the firm in assessing its exposures and maintaining its risk exposures within prudent levels.

In terms of managing credit risk, while the details differ from market risk, the fundamental philosophy is consistent: it involves the availability of accurate and timely exposure information incorporating multiple risk metrics, the establishment of limits which can be adjusted as necessary but only by the independent risk group, the extensive use of hedging and other risk mitigants to manage risk while maintaining risk capacity, and a high level of communication.

Particularly in light of events of the last two years, it's clear that no approach to risk management was foolproof, and we have all learned valuable lessons from recent experiences. However, we believe that the core elements that make up our risk management framework were broadly effective despite the unprecedented turmoil in the markets.

Thank you and I look forward to answering any questions you may have.