

Testimony of Richard Bookstaber

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Mr. Chairman and members of the Committee, I thank you for the opportunity to testify today. My name is Richard Bookstaber. I am employed at Bridgewater Associates, an investment firm in Westport, Connecticut. Before joining Bridgewater last year, I ran a hedge fund at FrontPoint Partners. During my career I have worked extensively in risk management. In the 1990’s I was in charge of market risk management at Morgan Stanley and then oversaw firm-wide risk at Salomon Brothers, continuing in that capacity for a short time after it was absorbed by Citigroup. Following that, I oversaw risk at two buy-side firms, Moore Capital Management and Ziff Brothers Investments. I am the author of [A Demon of Our Own Design – Markets, Hedge Funds, and the Perils of Financial Innovation](#), published in April of last year.

The invitation I received from Chairman Reed posed four issues for discussion: the state of current risk management models and systems; the adequacy of risk management by risk officers and executive boards; what regulators could do to improve their response to future market problems; and how regulators can better equip themselves to monitor risk.

These questions are complex and at the outset I would encourage the formation of a financial industry body to consider these and other matters of financial system risk. There

is the risk that burdensome controls will push some financial institutions off-shore and thus limit the reach of the government response to futures crises.

I would now like to address each of these questions in turn.

The state of current models and systems for measuring risk management

Large financial institutions, and I would include not just commercial and investment banks but large hedge funds as well, evaluate the risk of their portfolios on a daily basis. They use standard metrics such as value at risk, decompose their exposures into tranches of maturity and credit exposure and perform daily stress tests on their derivative positions. The systems and models they employ for these tasks are well developed; they are adequate for the risks they are designed to measure.

The problem is that the systems are not designed to measure – and in the current state of the world perhaps cannot be designed to measure – the risks we care the most about: the risks related to market crises. The best we can do at this point is recognize, as my current firm does, that these risks can only be dealt with by having those with true market insight and experience apply common sense rules that overlay the traditional risk metrics.

To understand the limitations of current risk models and systems, we need to understand how market crises develop. Consider as an example a highly leveraged firm that has a sizable position in a market that is under stress. The firm faces losses and its collateral drops to the point that its lenders force it to start selling. This selling leads to a further drop

in the market, which leads the collateral to decline still further, forcing yet more sales. This downward cycle reduces liquidity in the market, so the fund manager must look to sell positions he might be holding in other markets. This selling drops prices in these other markets, and highly leveraged funds with exposure in these markets are then forced to sell. And thus the cycle propagates. The result is that the stresses in the first market end up devastating another unrelated and perfectly healthy market.

As a simple example of the unlikely yet powerful linkages that can occur from this sort of dynamic, consider the silver collapse in 1980. The decline in the silver market brought the cattle market down with it. The improbable linkage between silver and cattle occurred because the Hunt brothers needed to raise capital to post margin as their silver positions declined, and to do so they sold off cattle positions.

As another example, the LTCM crisis in 1998 was precipitated by the default in the Russian debt market, even though LTCM did not have substantial positions in Russia. But some of those who did also had positions in markets where LTCM was active. When they were forced to sell in these markets, LTCM was caught up in the downward spiral. Many of these markets, such as the market for Danish mortgage bonds, had nothing to do with Russia, save for the fact that they were in the crosshairs of the same leveraged investors that were holding Russian debt exposure.

The point is that when it comes to risk management during market crises, the usual economic linkages and historical market relationships do not matter. Rather, what matters

is who owns what, who is under pressure to liquidate and what else they own. These dynamics are not part of institutions' risk management models, and indeed I do not believe at present that they can be. And more troubling, as I will discuss below, the requisite data are not even available for regulators to evaluate this type of risk.

The adequacy of risk management by risk officers and executive boards

Whatever the limitations of the risk models and systems, these were not the culprits in the case of the multi-billion dollar write-downs over the past year. These positions were patently visible; no models or detective work were needed. Furthermore, it was clear that the inventory was not liquid and that its market value was uncertain. So I do not believe the failure was from inadequacies in the risk management systems themselves.

Indeed, what occurred leaves me scratching my head; it is hard to understand how this risk was missed. How can a risk manager see inventory grow from a few billion to ten billion and then to thirty or forty billion and not react by forcing that inventory to be brought down? I can only surmise where the failure occurred: my view is that it was a failure of management. The risk managers did not have the courage of their conviction to insist on the reduction of this inventory, or the senior management was not willing to heed their demands.

If my supposition is correct, then more must be required of the risk manager than monitoring and understanding the risks. He also must have the willingness and independence to force issues up the chain of command. Furthermore the CEO must have

the capacity to assess the risk manager's advice and have the willingness to take bold action.

Adequacy in these dimensions requires the correct incentives, extending up from the risk manager to the CEO and the Board. As we know, often management incentives are akin to the trader's option – where the trader is rewarded handsomely if he turns a profit and simply walks away if he loses. We must move away from such one-sided incentives for senior management. Otherwise those who are responsible for protecting the firm from unwarranted risks will have incentives more closely aligned with those of a risk taker.

What regulators could do to improve their response to future problems in the market

I consider this question with some trepidation, because the risks of ill-conceived regulations are potentially greater than no regulation. So any suggestion by me or anyone else should be weighed by a task force of knowledgeable parties from across a spectrum of financial institutions to assess the potential implications. Keeping this in mind, I would like to put forward two proposals for consideration:

Establish a liquidity provider of last resort

In my October 2, 2007 testimony to the House Financial Services Committee I proposed “the government maintain a pool of capital at the ready to be the liquidity provider of last resort, to buy up assets of firms that are failing”. The Federal Reserve's action with respect to Bear Stearns is along the lines of this proposal.

The reason for the government to act as a liquidity provider of last resort is that by taking rapid and decisive action to infuse liquidity, regulators may break the cascade of an emerging crisis and curb a systemic threat. We have had a number of successes through this route. The LTCM failure saw its systemic effects forestalled by the Federal Reserve's actions in bringing together a bank consortium and having them stop the demand for sales to meet collateral. In the recent case of Bear Stearns, the action of the Federal Reserve infused liquidity and instilled confidence in the marketplace at a critical juncture.

The concept of a liquidity provider of last resort has already been employed successfully by the private sector. The large hedge fund Citadel has used its capital to buy up the assets of other hedge funds that were in distress, in one case with the failure of Amaranth and again with the failure of Sowood. Citadel's actions did not bail out the failing firms; the firms still went out of business. But its actions forestalled positions being thrown into a jittery, uncertain market, and thereby prevented the failure of the one firm from cascading out to have a systemic effect.

I hasten to emphasize that if the government considers formalizing a role of this type, a liquidity provider of last resort to buy up assets of firms that are failing, it will not be stepping into the business of bailouts. There is no moral hazard problem because the firm will still fail. But the collateral damage will be contained; the market will not go into crisis, the dominos will not fall. And just as Citadel did in the cases mentioned above, the taxpayer would have good odds of pocketing some profits.

Rethink the application of mark-to-market accounting

Marking positions to market is intended to price the positions according to what they would be worth if they were sold at the present time. The mark-to-market concept loses its meaning when applied to large positions during periods of market crisis. Indeed, in times of crisis mark-to-market accounting might even be destabilizing.

In a crisis the market is drained of liquidity. Many who otherwise would be natural buyers are facing large losses, yet others are running for the sidelines. In this situation a mark-to-market price is next to meaningless. If a financial institution has a large inventory of positions, it could not sell it at the market price. The price of the most recent sale in the market, which might have occurred through a trade of a few million dollars, will bear no resemblance to the price at which an institution could unwind positions – positions that might amount to tens of billions of dollars – when the market is in an illiquid state. And the financial institution might have no intention of selling, in which case the crisis-induced fire sale price bears no relationship to what the positions will be worth if held longer term.

Pricing inventory on a mark-to-market basis can be destabilizing. It might force yet more assets into the market because the institution might appear below a regulatory capital limit or need to satisfy covenants of its creditors. It might erode the market's confidence in the viability of the institution. In such cases the mark-to-market accounting will cause the crisis to become more severe.

I suggest regulators investigate the systemic risk implications of mark-to-market accounting rules.

How regulators can better equip themselves to monitor risk

Get the critical data

Prior to the recent financial crisis my current firm, Bridgewater Associates, performed an analysis of the incredible build up in leverage in derivatives throughout the financial industry. The firm was able to put together a rough but useful picture; however the clearest lesson from the exercise was how little anyone knew about where the risks lie. This finding conforms to my understanding as well.

Regulators are ill-equipped to monitor risk because they lack the right data. This is particularly true when we are looking at the issues of crises and potential systemic risks. As I have already mentioned, what matters for these risks is who is leveraged, what they own and what they owe to whom. Yet regulators do not have the essential information to monitor leverage. They cannot track the concentration of investors by assets or by strategies. Nor can they assess the risks at the foundation of the huge swap and derivatives markets because they do not know the positions of all of the counterparties – who owes what to whom and how losses would propagate if a set of counterparties failed.

It is important for regulators to determine the data that are necessary to monitor the markets for potential dislocations and related crises, and then provide the powers to access these data. Getting the critical data may require looking beyond the banks and even the investment banks into the hedge fund arena. I suggest that a task force be formed to

determine the data that are necessary to monitor the markets for potential dislocations and related crises, and to weigh the benefits of having such data and how to get it without creating an undue burden. It is difficult for regulators to know what data to get and how, so regulators should to work with an industry body that can facilitate this process.

In getting the critical data, regulators need to keep in mind that attempts to gather more information about financial institutions cannot be so burdensome as to push them off-shore or disturb the functioning of financial markets. For example, it is important to create safeguards to treat these data as proprietary, because broad knowledge of firms' leverage and positions can have an adverse effect on the market, reducing the willingness of investors to take on liquidity in times of crisis because of a fear that others will know their positions and trade against them.

Create a regulatory risk management function

In my October 2, 2007 Congressional testimony I suggested the need for “a regulatory body, a government-level risk manager with a role perhaps modeled after that of industry-level risk managers”. I am pleased now to see a similar recommendation come forward from the Department of the Treasury in the form of the role of the market stability regulator.

Such a regulatory body would acquire the relevant data and then use these data to monitor systemic risk. It would have the ability, either directly or in cooperation with other regulators, to put checks on the risk taking activities of the institutions under its purview. It

also would be the natural home for the liquidity provider of last resort. As with the issues of data acquisition, the success of such a function depends on it having oversight for all major risk taking institutions, including hedge funds.

With this I will close my prepared remarks. I again thank the Committee for inviting me to provide this testimony, and I look forward to your questions.