

**TESTIMONY BEFORE THE U.S. HOUSE OF REPRESENTATIVES
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REGARDING “SYSTEMIC RISK: EXAMINING REGULATORS’ ABILITY
TO RESPOND TO THREATS TO THE FINANCIAL SYSTEM”¹**

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This testimony is based on the results of Prof. Schwarcz’s research over the past year on systemic risk, such research and results being more fully set forth in the forthcoming paper, “Systemic Risk,” which is available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1008326 or, for the most current copy, by contacting Prof. Schwarcz, SCHWARCZ@LAW.DUKE.EDU or 1-919-613-7060.

I. INTRODUCTION

This hearing focuses on the following issues, relating to systemic risk: What are the major challenges facing U.S. financial regulators charged with supervising

¹ This copy of the Testimony has been updated from the submitted written Testimony by incorporating certain points added by Professor Schwarcz in his oral

the modern financial system? What challenges will regulators face going forward? Do regulators have the tools they need to meet these challenges? What changes, if any, should be contemplated to our regulatory system? What powers or information could have allowed regulators to anticipate and prevent the current sub-prime mortgage-related crisis and its impact on the broader financial system? My testimony will first suggest a conceptual framework in which to think about systemic risk and then, using that framework, will attempt to answer these questions.

II. DEFINING SYSTEMIC RISK

There is a great deal of confusion about what types of risk are truly “systemic.” Alan Greenspan has summed up the confusion, observing that although “[i]t is generally agreed that systemic risk represents a propensity for some sort of financial system disruption[,] one observer might use the term ‘market failure’ to describe what another would deem to have been a market outcome that was natural and healthy, even if harsh.”² As a result, the very definition of systemic risk is still somewhat unsettled.

A common factor in the various definitions of systemic risk is that a trigger event, such as an economic shock or institutional failure, causes a chain of bad economic consequences—sometimes referred to as a domino effect—to financial institutions and/or markets.

testimony.

Financial Institutions:

Banks and other financial institutions (collectively, “institutions”) are important sources of capital. Therefore their failure, especially in large numbers, can deprive society of capital and increase its cost. Increases in the cost of capital, or decreases in its availability, are the most serious direct consequences of a systemic failure.

The classic example of systemic risk in this context is a “bank run,” in which the inability of a bank to satisfy withdrawal-demands causes its failure, in turn causing other banks or their creditors to fail. The original failure can occur when depositors panic, converging on the bank to quickly withdraw their monies. Because banks keep only a small fraction of their deposits on hand as cash reserves, a bank may have insufficient cash to pay all withdrawal-demands, causing it to default and ultimately fail. A chain of subsequent failures can occur because banks are closely intertwined financially. This is most graphically illustrated by the Great Depression.

Although a chain of bank failures remains an important symbol of systemic risk, the ongoing trend towards disintermediation—or enabling companies to access the ultimate source of funds, the capital markets, without going through banks or other financial intermediaries—is making these failures less critical than in the past. Companies today are able to obtain most of their financing through the

²From Remarks at a Conference on Risk Measurement and Systemic Risk, Board of Governors of the Federal Reserve System, Washington, D.C. (1995).

capital markets without the use of intermediaries. As a result, capital markets themselves are increasingly central to any examination of systemic risk.

Markets:

Under modern finance theory, investors and other market participants can protect themselves from risk by diversifying their investments. To the extent risk is negatively correlated, or uncorrelated, with market risk, the randomly distributed risks of a diversified investment portfolio “would tend to cancel out, producing a riskless portfolio.” To the extent systemic risk affects markets, however, it is positively correlated with the markets and cannot be diversified away.

An Integrated Perspective:

It may be confusing to separate institutional and market systemic risk, since institutions and markets can be involved in both. Perhaps a better way to think about systemic risk is that its focus is sometimes critical financial intermediaries, like banks, that are pivotal to the funding of companies, and other times markets and/or institutions, such as hedge funds, that are either not financial intermediaries or at least not critical financial intermediaries. As disintermediation increases, systemic risk will increasingly be viewed by its impact on markets, not institutions per se.

This perspective also reveals that the business or legal characterization of any given institution should be far less important, from the standpoint of systemic risk, than whether such institution is, in fact, a critical financial intermediary. Hedge funds, for example, are not critical financial intermediaries since they are

not pivotal to the funding of companies. The likelihood that systemic risk would result from the failure of a hedge fund therefore depends not on such entity's characterization as a hedge fund per se but rather on the likelihood that its failure would jeopardize the viability of capital markets. Other than their lack of transparency—making it difficult to publicly determine the size of hedge fund exposures—there is little inherently unique about hedge funds from the standpoint of systemic risk. In Long Term Capital Management (LTCM), the potential for systemic risk existed not by reason of its intrinsic status as a hedge fund but by the sheer size of its exposure to other institutions and market participants. *Size matters.*

This is not to say that hedge funds, as operated in today's market environment, do not pose greater systemic-risk potential than many other types of business organizations. They may because of their aggressive quest for above-market profits and quick returns, as well as the possibility of convergence in their investing strategies. But these characteristics are not intrinsic to the nature of a hedge fund as a private and unregistered investment vehicle, and indeed other types of business organizations, including private-equity firms and even ordinary operating companies, can, and sometimes do, engage in aggressive investing techniques similar to those used by hedge funds.

Synthesizing these factors, we can reach a working definition of systemic risk: the risk that (i) an economic shock such as market or institutional failure triggers (through a panic or otherwise) either (x) the failure of a chain of markets or institutions or (y) a chain of significant losses to financial institutions, (ii)

resulting in substantial financial-market price volatility (which price volatility may well reflect increases in the cost of capital or decreases in its availability).

III. REGULATING SYSTEMIC RISK

Having defined systemic risk, I next examine whether such risk should be regulated.

A. The Appropriateness of Regulation

Whether systemic risk should be regulated can be viewed as a subset of the question of whether it is appropriate to regulate financial risk. I attempt to answer that general question and then examine how the answer should change by reason of the financial risk being systemic.

Regulating Financial Risk:

The primary if not sole justification for regulating financial risk is maximizing economic efficiency. Because systemic risk is a form of financial risk, efficiency should be a central goal in its regulation. Without regulation, the externalities caused by systemic risk would not be prevented or internalized because the motivation of market participants “is to protect themselves but not the system as a whole. . . . No firm . . . has an incentive to limit its risk taking in order

to reduce the danger of contagion for other firms.”³ Furthermore, the externalities of systemic failure include social costs that can extend far beyond market participants, and market participants will not want to internalize those costs.

As a result, there is a type of tragedy of the commons, in which the benefits of exploiting *finite* capital resources accrue to individual market participants, each of which is motivated to maximize use of the resource, whereas the costs of exploitation are distributed among an even wider class of persons. Furthermore, behavioral psychology predicts that individual market participants—by discounting the impact of systemic risk since it is so rare relative to other market risks—may perceive an even greater mismatch between benefits and costs.

To minimize the externalities caused by this tragedy of the commons (and thereby maximize efficiency), regulation of systemic risk appears not only appropriate but needed.

Beyond Economic Efficiency:

Efficiency, however, should not be the only goal of regulating systemic risk. Even though systemic risk is a form of financial risk, it stands apart and should be differentiated from traditional financial risk. Traditional financial risk focuses on risks *within* the financial system, and then efficiency should plainly be the central goal. Systemic risk, though, focuses on risks *to* the financial system.

³ Report of the President’s Working Group on Financial Markets, Hedge Funds, Leverage, and the Lessons of Long Term Capital Management 31 (April 1999).

Failure of the financial system can generate social costs in the form of widespread poverty and unemployment, which in turn can destroy lives and foster crime. Protecting health and safety therefore should be additional goals of regulating systemic risk. These additional goals can be reduced, however, to the single goal of preserving stability of the financial system, since preserving stability would avoid the breakdown that could lead to health and safety concerns.

The goals of regulating systemic risk thus should include both efficiency and stability.

Regulatory Costs and “Efficiency”:

I next use these goals to attempt to identify potential approaches to regulating systemic risk. Regulation, however, is not costless. Its costs can include hiring government (or government-delegated) employees to enforce the regulation as well as associated monitoring and compliance costs, as well as unintended consequences of regulation such as moral hazard, loss of economic welfare caused by firms performing fewer transactions, and the dynamic costs of regulations acting as a barrier to innovation. In identifying regulatory approaches, I therefore take into account not only the goals of stability and efficiency but also the costs of regulation based on these goals.

B. Identifying Regulatory Approaches

To understand how systemic risk should be regulated, it is helpful to first examine historical approaches.

Historical Approaches:

Historically, regulation of systemic risk has focused largely on preventing bank failure. Even in their limited contexts, these approaches are imperfect.

Some economists argue, for example, that rules preventing bank failure can cause moral hazard. Banks may increase risk exposures and reduce their capital ratios, knowing that the safety net (e.g., deposit insurance) will protect against sudden runs. Safety nets also can permit insolvent banks to remain in operation and continue to generate losses, such as the \$150 billion of losses generated by the ongoing operation of insolvent savings and loan associations.

Capital requirements are similarly imperfect. Constraining lending activities of banks can redirect funds to banks whose constraints are not binding. Capital requirements also are said to undercut the ability of banks to build equity value. These requirements also can be imprecise, since the standards by which they are imposed are imprecise.

After the near-failure of LTCM, an attempt also has been made to study how to mitigate systemic risk arising from hedge-fund failure. However the main government report, spearheaded by the Federal Reserve Board, provided only general recommendations. Even the Chairman of the U.S. Federal Reserve Board acknowledges the ongoing challenge.

The primary lesson of these historical approaches is that attempts to regulate systemic risk can be imperfect and messy.

Future Regulatory Approaches:

Set forth below are a few of the potential regulatory approaches I have considered.

Averting Panics. One possible approach to regulation is functional: to attempt to prevent financial panics, since they are often the triggers that commence a chain of failures. This approach appears to be a key feature of existing bank regulation, in which governmental deposit insurance is aimed at preventing bank runs.

Any regulation aimed at preventing panics that trigger systemic risk, however, could fail to anticipate all the causes of these panics. Furthermore, even when identified, panics cannot always be easily averted.

Furthermore, because the same trigger can foreshadow small consequences some times and large consequences other times, regulation intended to avert panics should attempt to take into account what it is beyond the triggering event that sorts the magnitude of the consequences, and should apply only to deter panics that trigger large consequences. It is questionable, though, whether such a sorting mechanism is always discernible ex ante.

Disclosure. Disclosing risks traditionally has been viewed, at least under U.S. securities laws, as the primary market-regulatory mechanism. It might seem that, in a world of perfect disclosure, financial panics would be minimized because investors would price in all risks. Indeed, the federal government report issued after LTCM's near-failure recommended increased public disclosure by hedge funds.

In the context of systemic risk, however, my research has shown that individual market participants who fully understand that risk will be motivated to protect themselves but not the system as a whole. Accordingly, requiring non-public entities such as hedge or private-equity funds to disclose their financial condition or leverage would do relatively little to deter systemic risk, since investors in those entities are unlikely to care about that disclosure to the extent it pertains to systemic risk.

Furthermore, commentators have argued that imposing disclosure requirements may even backfire, one contending that market participants presently have an incentive to carefully investigate their counterparties' creditworthiness but, if the market were regulated, less experienced actors might engage in derivatives trading, another arguing that increased disclosure would cause market participants to change their behavior (e.g., traders would become more cautious, demanding that prices move farther before making trades), thereby ultimately reducing market liquidity.

The efficacy of disclosure also is limited by the increasing complexity of transactions and markets. In the hedge-fund context, for example, even if disclosure is provided, the investment strategies utilizing derivative instruments are so complex that even sophisticated investors (or regulators) might not be able to fully appreciate the risk of any given strategy.

Disclosure alone therefore appears to be a weak regulatory approach.

Reducing Leverage. Reducing leverage would reduce the risk that a financial entity fails in the first place and also reduce the likelihood that problems at one financial institution could be transmitted to other institutions.

Requiring reduced leverage nonetheless could create significant costs. Some leverage is good, though there is no optimal across-the-board amount of leverage that is right for every company. Regulation that attempts to track optimal leverage thus would be nuanced and highly complex, as illustrated by the complexity of the Basel II capital adequacy requirements for banks. It has been observed that “the advanced approaches of Basel II are ‘too complex’ for anyone to understand, and the mathematical formulas in various drafts of the framework can look like a foreign language to some readers.” Imposing unnunanced limitations on leverage, however, could impair a firm’s ability to operate efficiently and impede economic growth.

Ensuring Liquidity. This approach, at least in theory, could facilitate stability in two ways: by providing liquidity to prevent financial entities from

defaulting (or to prevent defaulting financial entities from failing), and by providing liquidity to capital markets as necessary to keep them functioning.

There are at least two possible regulatory ways to ensure liquidity: creating a lender/market-maker or, more generically, liquidity provider of last resort (hereinafter, “liquidity provider of last resort”), and imposing entity-level liquidity requirements. Economists argue that panic will not usually become contagious (and thus systemic) when a lender of last resort provides adequate liquidity.

Establishing a liquidity provider of last resort could be an expensive proposition, potentially creating moral hazard and shifting cost to taxpayers. Nonetheless, these costs may be controllable.

The moral-hazard cost could be controlled, for example, by following a policy of “constructive ambiguity” under which the liquidity provider of last resort would have the right but not the obligation to intervene, and the rules by which it decides which to do would be uncertain to third parties.

Any shifting of costs to taxpayers could also be controlled. Rather than using taxation to establish the pool of funds from which the liquidity provider of last resort could make advances, the pool could be funded, for example, by charging “premiums” to market participants, not unlike insurance. FDIC deposit insurance, for example, is financed in this way.

Even if the pool of funds is raised by taxes, the funds could be invested to maintain their value until used, and loans could be advanced at a market interest rate. The IMF's failure, when acting as a lender of last resort to sovereign states, to charge a market interest rate on its loans is precisely what shifts costs to the taxpayers of IMF member-nations, who fund the loans. That failure, however, is political and not inherent in the concept of a lender of last resort.

Yet another way to avoid shifting liquidity-provider-of-last-resort costs to taxpayers is to privatize the role of liquidity provider of last resort, or at least to reallocate the source of loan-funding from taxpayers to private credit and other capital markets.

I've so far focused on using a liquidity provider of last resort to reduce institutional systemic risk. Consider next using a liquidity provider of last resort to reduce *market* systemic risk. Although providing liquidity to capital markets for that purpose is different in several ways from making advances to reduce institutional systemic risk, the moral-hazard and taxpayer-cost problems are again surmountable. For example, a policy of constructive ambiguity may not be necessary to control moral hazard, which now can be controlled by the liquidity provider of last resort investing in market securities at a deep enough discount to hurt speculative investors (while still ensuring market stability). Investing at this same discount also helps to assure that the liquidity provider of last resort will not ultimately lose, and indeed may make, money.

One might ask why, if a liquidity provider of last resort can invest in this way and make money, private investors won't also do so, thereby eliminating the need for a liquidity provider of last resort. The answer at least in part is that individuals at investing firms will not want to jeopardize their reputations (and jobs) by causing their firms to invest at a time when other investors have abandoned the market. Empirical evidence confirms that individuals engage in this type of herd behavior.

The other possible regulatory means to ensure liquidity is to impose entity-level liquidity requirements. Even in the banking context, however, these types of requirements are expensive, and they would be even harder to apply and manage in a broader context since the entities would be less uniform. Entity-level liquidity requirements also would not be applicable to ensuring market liquidity.

Diversifying Risk Through Hedging. Hedging is intended to protect institutions from risk by using credit derivatives to diversify that risk. The most widely used derivative instrument for this purpose is the credit-default swap, under which one party agrees, in exchange for receipt of a fee paid by a second party, to assume the credit risk of certain debt obligations of a specified borrower or other obligor. If a "credit event" (for example, default or bankruptcy) occurs in respect of that obligor, the first party will either (i) pay the second party an amount calculated by reference to post-default value of the debt obligations or (ii) buy the debt obligations (or other eligible debt obligations of the obligor) for their full face value from the second party.

Hedging also is effected through risk securitization, in which a company, bank, or other entity (a “hedged party”) transfers the credit risk of a portfolio of corporate loans, bonds or other debt obligations to a special-purpose vehicle (“SPV”). The SPV raises funds to support that assumption of risk by issuing securities to investors in the capital markets. The SPV agrees to make certain pre-determined payments to the hedged party if the credit risk of the portfolio increases (as determined by the default or bankruptcy of the borrowers or other parties that are obligated to the hedged party in respect of the debt obligations in the portfolio). Because any such payments would reduce the SPV’s assets from which investors receive repayment of their securities, investors are exposed to the credit risk of the portfolio. In return for assuming this risk, the hedged party pays the SPV fees that are applied, along with the SPV’s other assets, to repay the investors at a rate-of-return appropriate to the risk.

The effect of these hedging strategies is to facilitate risk-spreading to parties better able to bear the risks, including the “deep pockets” of the global capital markets. This diversification of risk reduces the likelihood that a default will cause any given institution to fail, and also mitigates the impact of any such failure on other institutions—not unlike the effect of limiting financial-exposure limits.

On the other hand, diversifying risk through hedging increases linkages among market participants which, at least in part, could offset the risk spreading and foster systemic risk: if an institution fails, it would potentially impact many more other institutions. *The net effect, however, appears to be a positive reduction of risk.*

Hedging strategies nonetheless can fail. For example, convergent hedging strategies could concentrate rather than diversify risk. Credit-default-swap markets also might generate perverse incentives. Furthermore, hedging strategies are sometimes unrealistic and, as illustrated by LTCM, can fail spectacularly when market liquidity dries up.

This discussion so far focuses on the use of derivatives for hedging risk. Derivatives also can be used for speculation. My research, and thus my testimony, does not address the specific debate of whether to regulate derivatives used for speculation.

Ad Hoc Approaches. The extent to which ad hoc responses to systemic risk facilitate stability and efficiency is, of course, partly dependent on what those responses turn out to be. Nonetheless, some general observations can be made.

For example, ad hoc approaches do not always work. Sometimes they are too late and the harm has been done or no longer can be prevented, and sometimes there is insufficient time to fashion and implement an optimal solution.

From an efficiency standpoint, ad hoc approaches can help to minimize the difficulties in measuring, and balancing, costs and benefits. Furthermore, ad hoc approaches reduce moral-hazard cost to the extent an institution cannot know in advance whether, if it faces financial failure, it will be bailed out or fail.

Market Discipline. Under a market-discipline approach, the regulator's job is to ensure that market participants exercise the type of diligence that enables the market to work efficiently. This is often achieved by ensuring that market participants have access to adequate information about risks, and by arranging incentives so those who influence an institution's behavior will suffer if that behavior generates losses. This is the type of approach presently taken by the United States government to minimize hedge-fund failure and the resulting possibility of systemic risk.

For two reasons, however, a market-discipline approach only weakly facilitates the goal of stability. Market discipline to avoid systemic risk already has been shown to be inherently suspect because no firm has an incentive to limit its risk taking in order to reduce the danger of systemic contagion for other firms.

Furthermore, even outside of the systemic-risk context, regulators have a mixed track record, absent prescriptive rules, of ensuring that participants exercise market discipline.

This mixed track record of ensuring that participants exercise market discipline can be partly explained by behavioral psychology. Investors cannot accurately price risks that rarely occur and are unpredictable, and often alternate between assessments of that risk that, in hindsight, were either much too high or much too low, creating a "pattern of alternating optimism and skittishness." This pattern partly reflects "availability bias," or the tendency of a recent crisis to be the most available concept in an investor's mind. In part, also, it reflects the

documented human tendency to underestimate the likelihood of very rare but potentially devastating risks.

Thus, although market discipline is attractive as a supplement to other regulatory approaches, there is some doubt whether it should serve as the exclusive, or even primary, regulatory mechanism.

C. Assessing Regulatory Approaches

The discussion so far has identified potential regulatory approaches. I now attempt to assess these approaches, first by examining cost-benefit balancing as a means of assessment, then by considering whether that balancing should be influenced by possible application of a precautionary principle.

Cost-Benefit Balancing and the Precautionary Principle:

Cost-benefit balancing as a means of measuring the efficiency of regulation is also a well-recognized test for regulatory political viability. For example, before any major rule may take effect, U.S. regulatory agencies must submit a cost-benefit analysis to Congress.

To the extent regulation deals with health and safety issues (as could arise in the case of systemic risk), agencies go even further beyond strictly econometric cost-benefit modeling. Perhaps the most relevant example for systemic risk is regulation designed to address the risk of catastrophic events or large, irreversible effects where the actual level of risk is indeterminate. In these cases, regulators

often apply a precautionary principle under which regulators may decide to regulate an activity notwithstanding lack of decisive evidence of the activity's harm, such as controlling low-level exposure to carcinogens notwithstanding lack of proof of a causal connection between such exposure and adverse effects to human health.

Assigning Possible Values to the Cost-Benefit Balancing:

My research next applied these principles to assess the potential regulatory approaches. A quantitative analysis is no better than its assumptions, of course, and the assumptions I used relied on no hard empirical data. Furthermore, a truly realistic balancing of costs and benefits could depend on the particular mechanisms by which systemic failures can arise.

All that truly can be said with confidence is that so long as the cost of a systemic meltdown is much greater than the cost of regulation, then regulation should be justified.

This provides, however, a useful way of thinking about the balancing because I show in my research that the cost of a systemic meltdown is likely to be much greater than the cost of regulation. Moreover, because a systemic meltdown can be catastrophic though the actual level of risk is indeterminate, my research suggests that a precautionary principle might appropriately apply to the balancing, allowing regulation based on a presumption that benefits will outweigh costs.

D. Recommendations

Based on my research, I propose regulation to establish a liquidity provider of last resort. The liquidity provider of last resort would provide liquidity to help prevent critical financial intermediaries from defaulting and to help prevent defaulting critical financial intermediaries from failing. It also would provide liquidity to capital markets as necessary to keep them functioning.

The liquidity provider of last resort could avoid moral hazard and also minimize taxpayer cost in the ways discussed above.

This approach should be supplemented by a market-discipline approach, under which regulators would attempt to ensure that market participants exercise the type of diligence that enables the market to work efficiently.

To the extent these approaches fail to deter a systemic meltdown, government should seek to prevent the meltdown or mitigate its impact by implementing whatever ad hoc approaches appear, at the time, to be appropriate.

IV. CONCLUSIONS

Let me now apply these findings to address the Committee's specific questions.

1. What are the major challenges facing U.S. financial regulators charged with supervising the modern financial system?

To some extent this question overlaps the next one, so my answers to both questions should be read together. The immediate challenge facing U.S. financial regulators charged with supervising the modern financial system is to instill investor confidence in financial markets. The recent monetary-policy actions by the Federal Reserve are helpful but they primarily impact banks, not financial markets; and it is markets, not banks, that are at risk in the current crisis. This is not to say that monetary policy should be discarded, merely that it must be supplemented. As my testimony proposes, one idea is to utilize a liquidity provider of last resort to provide liquidity to failing markets.

2. What challenges will regulators face going forward?

I believe that regulators need to come to grips with changing market realities in at least two ways. First, they should shift their focus from banks more to financial markets, to address the reality of financial disintermediation—the ability of companies to access capital market funding without going through banks or other financial intermediaries.

Second, regulators should begin thinking more seriously about the increasing problem of “complexity” and the dilemma that many financial transactions are so complex that disclosure to investors of the company originating the transaction is *necessarily imperfect*—either oversimplifying the transaction, or providing detail and sophistication beyond the level of even most institutional investors and securities analysts. Complexity, I believe, forces a rethinking of the

effectiveness of the long-held disclosure paradigm of securities law. *See* “Rethinking the Disclosure Paradigm in a World of Complexity,” 2004 U. ILLINOIS L. REV. 1 (2004) (republished in *SECURITIES LAW REVIEW* 28 (2006, Donald C. Langevoort, ed.).

3. Do regulators have the tools they need to meet these challenges?

No. I propose that the Federal Reserve be given the power to act as, or to arrange for, a liquidity provider of last resort along the lines discussed above. This needs to be “in place” because market collapses can occur rapidly and without warning. I also propose, in line with the discussion below of the international dimensions of the systemic-risk problem, that the Federal Reserve be given any necessary authority to work with foreign regulators on international regulatory solutions, including possibly establishing an international liquidity provider of last resort.

4. What changes, if any, should be contemplated to our regulatory system?

As discussed in answer to the previous question, I would propose authorizing the Federal Reserve to act as, or to arrange for, a liquidity provider of last resort and to be given any necessary authority to work with foreign regulators on international regulatory solutions. I also propose that regulators, including the Securities and Exchange Commission, begin rethinking the effectiveness of the long-held disclosure paradigm of securities law (as discussed in my answer to question 2 above).

5. What powers or information could have allowed regulators to anticipate and prevent the current sub-prime mortgage-related crisis and its impact on the broader financial system?

My answers to the prior two questions indicate how I believe it would have been possible, through a liquidity provider of last resort, to mitigate the impact of that crisis on the broader financial system. I am less certain, however, what powers or information could have allowed regulators to anticipate and prevent the current sub-prime mortgage-related crisis in the first place. As my testimony and, in much greater detail and application, my forthcoming article⁴ show, the problem is that systemic risk results from a type of tragedy of the commons in which the benefits of exploiting finite capital resources accrue to individual market participants, each of which is motivated to maximize use of the resource, whereas the costs of exploitation are distributed among an even wider class of persons. Therefore traditional market-discipline protections, including disclosure, are not always effective.

Furthermore, there are many ways that crises can happen. Trying to regulate all would dampen the economy. For example, an underlying cause of the sub-prime mortgage-related crisis was that mortgage loans turned out to be undercollateralized, due to the drop in home prices. One could consider imposing a

⁴ See “Systemic Risk,” available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1008326 or, for the most current copy, by contacting Prof. Schwarcz at SCHWARCZ@LAW.DUKE.EDU or 1-919-613-7060.

restriction on these types of loans, perhaps akin to the Federal margin regulations G, U, T, and X. Thus, rather than merely requiring a two-to-one collateral-value-to-loan ratio on margin loans secured by margin stock, one could require a minimum collateral-value-to-loan ratio on all “purpose loans” secured by collateral of the type financed. In the home-mortgage context, for example, lenders would then have to discount home values to anticipate the possibility of falling home prices. *But that would impede home ownership and also impose a high administrative cost on lenders as well as government employees monitoring it.*

It’s also easy to rush to incorrect conclusions and impose inappropriate regulation. For example, Alan S. Blinder, in his Op-Ed in Sunday’s [September 30, 2007] N.Y. TIMES business section, criticizes the rating agencies being paid by issuers, saying that if he “proposed that students pay [him] directly for grading their work,” his Dean would be outraged. But that’s misleading because, for rating agencies, the rating is universally independent of the fee and, moreover, the reputational cost of a bad rating far exceeds the income received by giving the rating. I believe the actual problem was not a conflict of interest but, rather, that the depth of the fall of the housing market exceeded what rating-agency analysts considered even worst-case scenarios.⁵

⁵ The question of who pays for a rating is also difficult. Historically, rating agencies made their money by selling subscriptions, but empirically that has not appeared to generate sufficient revenue to allow rating agencies to hire the top-flight analysts needed to rate complex deals. And even if there were an easy way to get investors to pay for ratings, that might create the opposite incentive: to err on the side of low ratings in order to increase the rate of return to investors—thereby increasing the cost of credit to companies.

The foregoing answers address systemic risk without necessarily engaging the international financial infrastructure. Because financial markets and institutions increasingly cross sovereign borders, a systemic collapse in one country inevitably will affect markets and institutions in other countries. Regulatory approaches in the United States thus should be coordinated with approaches in other countries, including the possibility of international regulation. It may well be appropriate, for example, to have an international liquidity provider of last resort. Ignoring the cross-border nature of the problem invites inefficiencies, including the possibility of a regulatory race to the bottom.

Irrespective of whether regulation is domestic or international, I caution in closing that the choice of specific regulatory approaches, including a realistic assessment of their costs and benefits, ultimately may depend on the particular mechanisms by which systemic failures can arise. To that extent, regulation is a moving target since new financial instruments and markets continue to be developed.