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DEBT FINANCING IN THE DOMESTIC FINANCIAL SECTOR

HEARING

BEFORE THE

SUBCOMMITTEE ON
FINANCIAL INSTITUTIONS AND CONSUMER PROTECTION

OF THE

COMMITTEE ON
BANKING, HOUSING, AND URBAN AFFAIRS
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ON

CAPITAL REQUIREMENTS AND DEBT FINANCING IN THE DOMESTIC FINANCIAL SECTOR

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WEDNESDAY, AUGUST 3, 2011

U.S. SENATE,
SUBCOMMITTEE ON FINANCIAL INSTITUTIONS,
AND CONSUMER PROTECTION,
COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS,
Washington, DC.

The Subcommittee met at 2:04 p.m., in room SD–538, Dirksen Senate Office Building, Hon. Sherrod Brown, Chairman of the Subcommittee, presiding.

OPENING STATEMENT OF SENATOR SHERROD BROWN

Senator BROWN. Thank you for joining us. The Subcommittee on Financial Institutions and Consumer Protection of the Senate Banking Committee will come to order.

Thank you very much for joining us today, the four witnesses and those in the audience and staff. Thank you. I know that when you schedule a hearing, when you schedule it ahead of time, you do not always really know, but when there is one that happens after people start leaving town, there is no telling what will happen. So I am just honored the four of you still showed up and that staff on both sides showed up and have been helpful in the planning of this hearing.

I will do an opening statement, then have each of you do the same, and the questions and answers may be a little more free flowing than they might at another hearing. I am going to probably ask you to respond to each other's assertions and statements and observations. All four of you are highly respected in these fields and have thought a lot about this and reflected a lot about this, and so it should be an interesting discussion for an hour or so.

The recent debate that we just concluded—and mercifully is concluded, or at least round one is—obviously was fixated on the national debt, but it was more than just the national debt that we should be worried about. Too many people in Washington seem to have forgotten about the debt that helped put us in this deep recession and cost our country and almost everyone in it so much, and that is the debt of the financial sector.

CBO estimates the entire cost of rescuing our failing banking system—the bailouts, decreased tax revenues, new spending programs in response to the trouble economy, and interest payments—will cost our Nation some $8.6 trillion, meaning 8 thousand billion dollars. That is more than 57 percent of our GDP. We cannot allow collective amnesia to obscure the role that excessive financial service debt played in causing the deepest recession since the Great Depression, and that really is the purpose of this hearing.

In nearly the last century and a half, U.S. banks' capital ratios declined from about 25 percent—and all of you have written and thought about this a lot—to around 5 percent of total assets. In the last two decades, the 10 largest banks nearly doubled their leverage—that is, they have halved assets, if you will, that they have available to pay off that debt.

At the time of the financial crisis in 2007–08, four of our five largest investment banks were leveraged 30, 35, and in one case 40 to 1. That means when their assets declined by even the smallest amount, they were unable to cover to pay their debts. They were essentially insolvent, as we know. This overreliance on borrowing from other businesses makes the financial system so interconnected, so interdependent that the failure of one firm can bring down the entire sector, if not the entire economy. The implicit assumption that the Government will backstop their losses gives companies an incentive to engage in what economists George Akerlof and Paul Romer have called "looting." Companies can risk bankruptcy at the expense of the rest of society instead of bearing the losses themselves.

According to Kansas City Fed President Thomas Hoenig, the 20 biggest banks are more highly leveraged than their community bank competitors—if I can use that word "competitors" in that case. The largest banks are able to borrow more cheaply than they otherwise would because it is assumed that the Government will step in to prevent them from failing.

As a result, the largest banks make bigger profits than those do not enjoy Government subsidies of one form or another. They are least able to weather an economic downturn because of that significant leverage. And not surprisingly, the largest banks are often bigger than before. Prior to 2006, the 10 largest banks held 68 percent of total bank assets. By the end of 2010, they had 77 percent of total banking assets.

Simply put, were there another economic calamity, bailing these banks out again would impose an even higher cost on taxpayers. This is not capitalism in any sense of the word. The easiest way to prevent the need for future bailouts is simple: requiring banks to hold increased capital reserves. Capital buffers simply require banks to fund themselves using their own money instead of other people's money.

Last Tuesday, the Ranking Member of the full Committee, Senator Shelby, said one of the lessons of the financial crisis should be the importance of maintaining strong capital requirements, especially for large global banks. I could not agree more. The least we can do is ask the financial sector to have a prudent amount of its own money to cover its own losses. We require as much of our community banks, much less a SIFI, much less a threat to our system, and the same rules should apply to everyone. That is why we are having this hearing today and testifying are some of the Nation's greatest economic minds that have great insight into all of this.

Let me introduce each of the four of you, and then we will call on all four of you and work our way across.

Joseph Stiglitz, born in Gary, Indiana, in 1943, has taught at Princeton, Stanford, MIT, and was Drummond Professor and Fellow at All Souls College in Oxford. He is now a university professor at Columbia and co-chair of Columbia's Committee on Global Thought. He is the co-founder and executive director of the Initiative for Policy Dialogue there. He was awarded the Nobel Prize in Economics 10 years ago for his analyses of markets with asymmetric information. He was lead author of the 1995 report on the Intergovernmental Panel on Climate Change, which shared the 2007 Nobel Peace Prize. Stiglitz was a member of the Council of Economic Advisers in the early Clinton years and served as chair from 1995 to 1997. He then became chief economist and senior vice president at the World Bank from 1997 to 2000. Dr. Stiglitz, thank you for joining us.

Edward Kane is a professor of finance at Boston College. For 20 years he held the Everett Reese Chair of Banking and Monetary Economics of Ohio State University and had the bad judgment to leave.

[Laughter.]

Senator BROWN. Currently he consults for the World Bank and is a senior fellow in the Federal Deposit Insurance Corporation's Center for Financial Research. Previously, Dr. Kane has consulted for numerous agencies, including IMF, components of the Federal Reserve System, and three foreign central banks. He has consulted for the Congressional Budget Office, the Joint Economic Committee, and the Office of Technology Assessment when we had one in the U.S. Congress.

Eugene Ludwig is founder and chief executive officer of Promontory Financial Group, the leading consulting firm for financial companies worldwide. Prior to founding Promontory, Mr. Ludwig was vice chair and senior control officer of Bankers Trust Deutsche Bank. Earlier he served for 5 years as Comptroller of the Currency. As Comptroller, Mr. Ludwig headed the Office of the Comptroller of the Currency, the Federal agency responsible for supervising the preponderance of bank assets in the U.S. Prior to being Comptroller, he was a partner in the law firm of Covington & Burling in Washington, specializing in banking law.

And last, Paul Pfleiderer received a B.A., a Master of Philosophy, and Ph.D. degrees from Yale, all in the field of economics. He has been teaching at Stanford for some 30 years. His research, much of which is jointly pursued with Anat Admati, another professor of finance at the GSB, is generally concerned with issues that arise when agents acting in financial markets are differentially informed. His current research concerns corporate governance. In addition to his academic research, Professor Pfleiderer has consulted for various companies and banks. He has been involved in developing risk models and optimization software for use by portfolio managers.

Dr. Stiglitz, if you would begin.

STATEMENT OF JOSEPH E. STIGLITZ, PH.D., PROFESSOR OF FINANCE AND ECONOMICS, COLUMBIA BUSINESS SCHOOL, COLUMBIA UNIVERSITY

Mr. STIGLITZ. Well, thank you for this opportunity to address the question of the financial structure of the banking industry, which I believe is central to the future stability and prosperity of the American and global economy. And let me thank you, Senator Brown, for holding these hearings.

Two fundamental analytic insights, buttressed by some empirical observations, should inform our thinking about the appropriate regulation of banks, including capital requirements and risk taking. The first is that when information is imperfect and risk markets incomplete—that is, always—there is no presumption that unfettered markets will result in efficient outcomes. The reason is that actions give rise to externalities, consequences that are not borne by those undertaking them. There is a systematic misalignment of private and social returns.

This result is of central importance in banking and finance because the very rationale for the sector arises out of risk management and the acquisition and utilization of information necessary for the efficient allocation of capital. The externalities consequent to the excessive risk taking of the banks are manifest: It is not just the costs of the bailouts and the millions of Americans who have lost their homes, but the literally trillions of dollars of lost output, the gap between the economy's actual and potential output, the predictable and predicted fallout of the crisis. The resulting suffering—including that of the 25 million Americans who would like a full-time job and can't get one—is incalculable. The budgetary problems facing the country too are in no small measure a result of the inevitable decline in revenues and increase in expenditures that follow. It is well known that recoveries from financial crises are slow and painful.

This crisis not only demonstrated the importance of the externalities to which failures in financial markets give rise, but also the importance of what economists call agency problems—those, like bank officials, who are supposed to take actions on behalf of others, who have a fiduciary responsibility, often have incentives that lead them to take actions that benefit themselves at the expense of those they are supposed to serve.

The second fundamental insight is that increased leverage in general does not create value, but simply shifts risk. As leverage increases, increased risk is placed on the equity base. This is the central insight of the Modigliani-Miller theorem. In the 1960s and 1970s, I showed that that result was far more general than Modigliani-Miller had thought, but that there were limitations too, most of which cautioned against excessive leverage: If there were real costs to bankruptcy (as there are), then increased leverage increased the likelihood of these dissipative costs.

In the financial sector, the social costs of increased leverage are even greater because of the societal costs associated with the externalities that I described earlier. The misalignment of incentives is even more in the case of too-big-to-fail banks—banks that are so large that the potential consequences of allowing them to go bankrupt poses an unacceptable risk.

The key empirical observation is that markets are often not rational in assessing risk; this is true even of the so-called experts, but even more so of those who are financially unsophisticated. Alan Greenspan testified to this before Congress when he expressed his surprise that the financial markets had not managed risk as well as he had expected. But while he was correct in the conclusion that financial markets had done a miserable job of managing risk, I was surprised at his surprise. After all, anyone looking at the incentive structures confronting key decisionmakers should have realized that they had incentives for excessive risk taking and short-sighted behavior.

But beyond that, Greenspan made another error: If I mismanage risk, if I am irrational in my risk analyses, I and my family suffer, but there are unlikely to be societal consequences. But if a bank and especially a very large bank mismanages risk, the macroeconomy can be seriously affected. There are externalities. It is these externalities that provide the motivation for Government programs. It is these externalities that explain why self-regulation simply will not work. It is deeply troubling when the country's major financial regulators do not understand the rationale for regulation.

Rational markets would realize that increasing leverage shifted risk and would demand compensating differentials. As we see banks striving to increase their leverage, there may be uncertainty about what is driving this. Is it because in doing so, they increase the implicit subsidy from the Government? Is it because they do not understand the fundamentals of risk? Is it because they understand the fundamentals of risk, but realize that their bondholders and shareholders do not, so that they can extract more money for themselves? But about this there is no uncertainty. Excessive leverage has large societal costs. Banks, and especially the big banks, need to be restrained.

Indeed, the analysis above suggests that there are few or no societal costs to doing so and considerable benefits. It is not as if leverage somehow manufactures resources out of thin air. Lending is risky. The risk has to be borne somehow. It is borne by equity holders of lending institutions—to the extent it is not shifted to Government, FDIC, bondholders, or depositors. It is better to have it better distributed, among a large equity base, given the high social costs of financial disruption.

Recent empirical research has provided considerable support for the views expressed here. Even if there were some increases in lending costs as a result of increased equity requirements, those costs have to be offset against the benefits.

There are very large societal costs from bank failures, as I said before, and these can be substantially reduced by higher equity requirements.

Some have argued that even if it makes sense in the long run to increase capital requirements, doing so in the short run can be costly, especially at a time such as this when the economy is fragile and the banking system already weak. At most, this is an argument for a paced increase in capital requirements and one which would not allow any dividends or share buybacks or extravagant bonus pools until the desired capital ratios are reached. But one should at the same time be aware of the large risks, especially under the current circumstances, of delay. It is precisely because the economy is fragile, banks have inadequate capital, and the banking sector in the aftermath of the crisis is more concentrated than before that the risk of a financial catastrophe of the kind that we experienced in 2008 is so great today. The downside risks of not doing something are especially grave now.

I have focused my remarks this afternoon on increasing banks' equity capital. There are a number of other factors affecting the risk to the economy posed by the banking and financial sector. I have noted the risk of too-big-to-fail banks. We should not allow any bank to grow to a size that it poses a systemic risk to the economy. Yet in the aftermath of the crisis, as you pointed out, the banking sector has become more concentrated, and the risk posed by too-big-to-fail banks has, if anything, increased. We saw too in the crisis that the risks posed by non-transparent transactions, such as over-the-counter CDSs and off-balance-sheet activities. One of the reasons that the financial system froze was that everyone knew that there was no way that they could know the true financial position of most of the banks. While the Dodd-Frank bill improved matters, it went nowhere far enough. The problems continue, and as long as they continue, our economy is at risk.

We may never fully protect the economy against the risk of another crisis such as the one we have been through. But this much should be clear: Our economic and financial system is badly distorted. Resources were misallocated before the crisis. No Government has ever wasted resources—outside of war—on the scale that has resulted from the failures of America's financial system. We may have begun the work of making our financial system once again become the servant of the society which it is supposed to serve, but there is a long way to go. Lending, especially to small- and medium-sized enterprises, is constrained. Activities that pose unnecessary risks to our entire economy continue.

We cannot rely on the self-restraint or self-regulation of financial markets. We learned that lesson in the aftermath of the Great Depression, and the decades following World War II, with this strong regulatory system, were among the most prosperous this country has experienced. The question is: Will we relearn that lesson in the aftermath of the Great Recession of 2008?

Senator BROWN. Thank you, Dr. Stiglitz.

Dr. Kane, thank you for joining us.

STATEMENT OF EDWARD J. KANE, PH.D., PROFESSOR OF FINANCE, BOSTON COLLEGE

Mr. KANE. Thank you, Mr. Chairman. It is an honor and privilege to share with you my concerns about the distributional effects——

Senator BROWN. Is your microphone on?

Mr. KANE. Shall I start again?

Senator BROWN. Go ahead.

Mr. KANE. [Continuing] The distributional effects of making taxpayers back up Treasury and Federal Reserve bailouts of insolvent and ungrateful financial institutions.

During the housing bubble, our representative democracy better served the interests of foreign and domestic financial institutions than the interests of society as a whole, as Joe Stiglitz has been saying. But why were taxpayer interests poorly represented? It is because of regulatory capture.

The financial industry sewed huge loopholes into the capital requirements and regulatory definitions of risk that—then and now—are supposed to keep financial instability in check. The Dodd-Frank Act left many critical issues open. It did not try to define "systemic risk" or to confront the ongoing foreclosure mess and Fannie and Freddie disasters. And implementation of its strategy for dealing with regulation-induced innovation and for disciplining lead institutions is left to regulators. The Keating 5 episode tells us how hard it can be for regulators to write rules that truly crack down on politically influential firms. Sadly, the same gaps and issues exist in reform efforts unfolding in Basel and in the European Union.

The issue before us is to put reform on a more promising path. To me, this means Governments must do three things: redefine the supervisory missions of regulatory agencies, rework bureaucratic incentives in these agencies, and refocus reporting responsibilities for regulators and for protected institutions on the value of taxpayers' safety net support. Unless these duties are embraced explicitly and enforced in an operational and accountable way, it is unreasonable to believe that authorities will adequately measure and contain systemic risk during future booms and busts, let alone in the bust we are still living through today.

A first step would be to strengthen training and recruitment procedures for top regulators. As you know, most top regulators leave behind them, under current appointment procedures, a trail of political debts they have to surface. If it were up to me, I would establish the equivalent of an academy for financial regulators and train cadets from around the world. Among other things, students would be drilled in the duties they owe the citizenry and in how to overcome the unhealthy political pressures elite institutions exert when and as they become undercapitalized.

The public recognizes that the Fed and Treasury rescue programs placed heavy and less than fully acknowledged burdens on the citizenry. Evaluating Fed and TARP rescue programs against the unrealistic standard of doing nothing at all, high officials tell us that their bailout programs were necessary to save us from an economic depression and actually made money for the taxpayer. Both claims are false, but in different ways.

Bailing out firms indiscriminately—and the lack of discrimination is the point—hampered rather than promoted economic recovery. It evoked reckless gambles for resurrection among rescued firms and created uncertainty about what set of citizens would finally bear the extravagant costs of these programs. Both effects continue to disrupt the flow of credit and real investment that is necessary to trigger and sustain economic recovery.

The claim that the Fed and TARP programs actually "made money" for the taxpayer is half-true. The true part of the proposition is that, thanks to the vastly subsidized terms of these programs, most institutions were eventually able to repay the formal obligations they incurred. But the other half of the story is that these rescue programs forced taxpayers to provide undercompensated equity funds to deeply troubled institutions, and that the largest, as you said, and most influential of these firms were allowed to make themselves bigger and even harder to fail.

Government credit support transferred to taxpayers the bill for past and fresh losses at protected firms. Authorities chose this path without weighing the full range of out-of-pocket and implicit costs of indiscriminate rescues against the costs of alternative programs such as prepackaged bankruptcy or temporary nationalization and without documenting differences in the way each deal would distribute benefits and costs across the population of this country.

Going forward, the crucial problem is how to relate capital requirements to systemic risk. We do want to raise capital requirements, but we have to relate them to more securely systemic risk.

Acting in concert, market and regulatory discipline force a firm to carry a capital position that outsiders regard as large enough to support the risks it takes. Taxpayers become involved in capitalizing major firms because creditors regard the conjectural value of the off-balance-sheet capital that Government guarantees supply as a put option—a "taxpayer put"—that serves as a partial substitute for on-balance-sheet capital supplied by the firm's shareholders. So Citicorp was not undercapitalized. It was just capitalized too heavily with its taxpayer put.

So the root problem is that supervisory conceptions of capital and systemic risk fail to make Government officials and protected firms accountable for the roles they play in generating adverse movements in either variable. Policymakers' knee-jerk support of creative forms of risk taking among the client firms they supervise and officials' proclivity for absorbing losses in crisis situations make sure that tough decisions favor industry interests over those of the taxpayer.

Systemic risk can be likened to a disease that has two symptoms. The Dodd-Frank Act and the Basel III framework use higher capital requirements to treat only the first of these symptoms: the extent to which institutions expose themselves in directly and readily observable ways to credit risks that *in extremis* might fly across a chain of connected counterparties. But to be effective, the medicine of capital requirements must be adapted to take fuller account of a firm's funding patterns and to treat a second and more subtle symptom. This second symptom is the ease with which actual or potential living-dead institutions can use financial accounting tricks and innovative instruments to hide risk exposures and to accumulate fresh losses until their insolvency becomes so immense that they can drive regulators into a panic and extort life support from them.

So in good times and in bad, the existence of this "taxpayer put" allows elite private institutions to issue the equivalent of Government debt and makes ordinary citizens uncompensated equity investors in such firms.

My recommendations for regulatory reform are rooted in the straightforward ethical contention that protected institutions and regulatory officials owe fiduciary duties to taxpayers. The existence of a safety net makes taxpayers silent equity partners in major financial firms. Not only are they silent partners, they are uncompensated or poorly compensated partners. So as *de facto* investors, taxpayers deserve to be informed at regular intervals about the value of their side of the taxpayer put. Consistent with U.S. securities laws, managers of important financial firms should measure and report under penalties for deception and negligence the value of taxpayers' stake in their firm on the same quarterly frequency that they report to stockholders, and Government officials should examine, challenge, aggregate, and publicize this information.

My two-piece conception of systemic risk clarifies that it is embodied in a coercive option-like equity investment by taxpayers in the firms the safety net protects. The value of taxpayers' position varies with the risk that an institution might sustain losses that exceed its ownership capital—a guaranty that is often called "tail risk" by economists—and with the percentage of this tail risk that the Government is likely to absorb. It is one of these bets that heads, the institution wins, and tails, the taxpayer loses.

Defining systemic risk as taxpayers' side of an unfavorably structured claim also provides a metric for tracking systemic risk over time. That is the advantage of this definition. Requiring authorities to calculate and disclose fluctuations in the aggregate value of the taxpayer puts would make regulatory authorities operationally accountable for the quality of their supervisory performance in booms and recessions alike. Most existing measurement strategies incorporate the pioneering perspective of Robert Merton. Studies using this approach show that regulators could have tracked the growing correlation of institutional risk exposures as an early warning system for the current crisis. Expanding the format for collecting information from covered institutions to include estimates of the potential variability of their returns over different horizons should improve the precision of systemic risk estimates and officials' accountability for regulatory and supervisory performance.

Under current rules, accounting standards for recognizing emerging losses make evidence of an institution's insolvency dangerously slow to surface. Efficient safety net management requires a more sophisticated informational framework than current methods of bank accounting and examination provide. To protect taxpayers and to enhance financial stability, examinations and bank accounting reports should not focus narrowly on measures of tangible capital. They should also develop and report explicit estimates of the intangible value of an institution's claim on taxpayer resources. To hold financial institutions and regulators accountable for carrying out these tasks conscientiously, regulators and financiers must be made to accept a system of ethical constraints that would make them share this information with the public.

Thank you, Mr. Chairman.

Senator BROWN. Thank you, Dr. Kane.

Mr. Ludwig, welcome. Thank you for joining us.

STATEMENT OF THE EUGENE A. LUDWIG, CHIEF EXECUTIVE OFFICER, PROMONTORY FINANCIAL GROUP

Mr. LUDWIG. Thank you very much, Mr. Chairman, for having me here today. I would like to commend you, Chairman Brown, Ranking Committee Member Senator Corker, and the other Members of the Committee for holding this hearing.

Chairman Brown and Ranking Member Corker and the rest of the Members of the Committee can take pride in having worked hard to address the challenges posed by the financial crisis. You have brought important congressional focus on the issues of financial stability, safety and soundness, and the regulatory framework. You have passed landmark legislation in this area and continue to engage in serious oversight.

We must never lose sight of the tremendous toll that the financial crisis has taken on our country. Millions of Americans are reeling from lost jobs, lost homes, and lost life savings. This loss has hit our low- and moderate-income citizens the hardest. It is a terrible tragedy for many families across America.

As we continue to recover from the financial crisis, our challenge now is to successfully implement the very powerful post-crisis reforms enacted through Dodd-Frank, the Basel Committee and the Financial Stability Board. Implemented correctly, these new rules will add markedly to financial stability. However, if they are implemented without a sense of their cumulative impact on financial institutions and the system and without a sense of balance and proportion, these rules will put a drag on the financial system, our economy, and on job growth. Furthermore, if the implementation of these rules is excessive, we could actually see a decrease in safety and soundness.

Now, I would like to take a moment to discuss capital requirements—an issue that I know is of great interest to this Subcommittee. Clearly, capital is critical to a safe and sound financial system. The Dodd-Frank Act, Basel III, and the Financial Stability Board reforms recognize the importance of capital, and they have acted forcefully. Through their reforms we now have very tough capital requirements and capital levels that significantly exceed previous requirements.

Under Basel III, banks will have to hold 10.5 percent total capital and 7 percent common equity. On top of that, U.S. regulators may add an additional countercyclical capital buffer of up to 2.5 percent. Furthermore, most of the financial institutions typically carry a buffer above the required minimums.

At a minimum, this is over a 300-percent increase in required common equity before additional buffers and revised risk weights are factored into the equation—three times, 300 percent, a very significant addition. This is an important change because common equity is the highest quality capital, although it is the most expensive for banks to raise.

Now, it is also important to note that prior to the crisis several of our largest non-bank institutions were subject to a much less rigorous capital regime. Post-crisis, due in part to major investment banks converting to or being purchased by commercial banks, and in part to the ability of the FSOC to designate non-bank financial institutions as systemically important, a number of institutions will see an even more marked increase in their capital requirements. So we are seeing a real uptick in the amount of capital in the system.

But while capital is an important tool in the supervisory toolkit, it is only one tool. I believe we have achieved important reforms involving capital and, therefore, I would not at this time advise any further increases in capital requirements beyond the Dodd-Frank and tough Basel standards.

What I would like to stress is that critically important to safety and soundness is balance, balance, balance.

So how do you achieve the right balance and ensure that our regulators and regulations are both serious and meaningful but not so elaborate that they needlessly weigh down the economy? Unfortunately, there is no quick fix. But I can provide seven suggestions.

First, constant and thoughtful congressional oversight. I think this Committee, as I mentioned, is to be commended for this hearing. Congressional oversight is enormously important for the regulatory mechanism to function correctly. Bringing regulators up here, calling them to task, asking the right questions, as you are doing today, is just critical.

Number two, support of the work of the Office of Financial Research and its critical role in monitoring systemic risk and promoting financial stability. The OFR, one of the creations of Dodd-Frank, is, I think, one of the greatest steps forward in this piece of legislation. It creates a body of economists who think and worry independently about the next financial bubble, and it helps financial regulators to target their resources in the right direction. That is just getting started. Ensuring that the OFR is moving forward is critical.

Number three, ensure that our regulators continue to be top professionals who are balanced in their views and devoted to a safe and sound banking system that supports prudent innovation and economic growth. I certainly agree with Professor Kane that education in the regulatory field, for which there are too few opportunities, is critically important. Today you can get a degree in almost everything in America, but there is simply no degree program in regulation and supervision, which I think is terrible.

Number four, avoid waste and excess at all costs. In fact, many of our rules and procedures can be applied very well with much less waste than is currently the case. This is critical because it is not a matter of not having tough regulation, but it is having effective regulation that is targeted, and waste actually decreases safety and soundness because it mis-targets resources.

Number five, periodically review regulatory rules to ensure that they are both effective and cause the least burden possible. Regulations tend to grow up around financial institutions like barnacles on a ship, and in order to keep the ship sailing forward, one simply has to clear the barnacles off from time to time.

Number six, impose international capital and liquidity rules for global banks on a level playing field basis. Global standards must not simply put U.S. financial firms at a disadvantage. I think this is a very big issue. We have tough regulators, we have tough regulations. The new Dodd-Frank rules are demanding. But we need to impose these globally in a level playing field basis.

Number seven, properly regulate the shadow banking system, which currently owns one-quarter of the United States financial sector. This is significant because if you look at the institutions that failed and triggered the crisis, it was not the commercial banking sector. The shadow banking sector, which is still loosely regulated, is a genuine danger.

With that said, I look forward to answering your questions. Mr. Chairman, thank you very much for having me today.

Senator BROWN. Thank you, Mr. Ludwig, very much.

Professor Pfleiderer.

STATEMENT OF PAUL PFLEIDERER, PH.D., C.O.G. MILLER DISTINGUISHED PROFESSOR OF FINANCE, GRADUATE SCHOOL OF BUSINESS, STANFORD UNIVERSITY

Mr. PFLEIDERER. Thank you, Chairman Brown, for allowing me to be here today in what I think is a very important issue that is being discussed here.

I want to start with a very simple proposition that I think is completely uncontroversial, and that is the notion that the Government should not in any way encourage firms to take actions that have large social costs and produce little or no social benefit.

And just to make this particularly salient, imagine a uranium processing firm that wanted to locate one of its plants in a crowded residential area. Obviously, we would have zoning regulations and other regulations that would prohibit that. But what if the Government had a tax policy that encouraged the uranium processing plant to locate in a crowded area and in and above that actually provided health benefits in terms of insurance protection for health claims against the uranium processing plant only if it locates in the crowded residential area? That would be a perverse policy, clearly.

We, fortunately, do not have a perverse policy for uranium processing plants, but we do have a perverse policy when it comes to our banking sector, and the reason for that is our Government subsidizes debt and makes equity expensive, and it does that in two main ways. First of all, there is a tax subsidy—debt provides a tax shield—that is available to all corporations, but particularly available to banks.

But the other subsidy is the one that is absolutely critical here, and that is there is a too-big-to-fail subsidy, a number of implicit and explicit guarantees that are given in the Government's safety net that basically subsidize firms when they issue debt and make equity expensive.

Now, this creates huge distortions, and if it affected only a few small banks it would not be a problem, but it affects our entire financial system, especially the too-big-to-fail banks, and makes the system extraordinarily fragile, and the evidence of what that can create is just a few years ago in our crisis, and we are actually seeing more of it play out in Europe as we sit here today. Highly levered banks with too little equity create huge externalities that are negative in the sense that they create the possibility of a crisis. So there is a huge social cost to this and the question is, is there any social benefit, and the answer is, no, there is absolutely no social benefit.

Now, a lot of people claim that equity is expensive, but that is based upon a lot of fallacies and mistaken notions. The first notion is that banks hold equity. Banks do not hold equity. Banks hold assets. Equity has to do with the right-hand side of the balance sheet and in particular the promises banks make to those that are providing their funds, and the promises come in two sorts of forms. One is promises that are contractual obligations that are made to debt providers, and then equity holders have no contractual promises made by the banks. They just get whatever is left. So the problem, of course, is if you make too many promises to debt holders, debt funders of the bank, you get into a situation such as what we had in 2008, where the system is teetering on the brink of insolvency, and, in fact, is insolvent.

So with little equity, we have losses that are essentially socialized. With more equity, we have losses that are privatized. In a capitalistic system, we want the latter, not the former.

So one of the important things in this debate is to distinguish private from social costs. Let us go back to the uranium processing firm. Imagine that the uranium processing firm is located close to a highly populated residential area and the Government says that it must be moved. Now, the owners of that plant could claim it is costly, but they would say it is costly because we are going to lose tax benefits and we are going to lose the insurance you are providing if we were in a highly populated area. We are going to move that if we move the uranium processing plant. That is clearly a private cost. You are just simply taking away subsidies.

Well, the analogy is perfect with the banks here. If we force the banks to move toward higher capital to safety, we are taking away subsidies that they had that were encouraging them to do bad things. That is not costly from a social cost point of view.

Now, there are a number of other fallacies that are brought up in this debate. One of them is that banks require a specific return on equity and that this equity return that is required is fixed, somehow independent of how the bank is financed. And Professor Stiglitz, following up on work done by Franco Modigliani and Merton Miller, has showed that this is a basic fallacy. So that is an argument that is based not on science. It is based pretty much on wishful thinking about how the market might be fooled when you change risk exposures.

Another thing that we see in the marketplace is that a lot of compensation is based upon ROE. Well, you can simply go through a very simple experiment, just a little back-of-the-envelope calculation. Let us imagine we had two managers, a very good manager and a very bad manager, and the good manager has 10 percent equity, not a lot, but 10 percent, and manages the bank's assets very well and has a 3-percent return on assets before interest. Then at a 2-percent interest rate paid to its funders, that is a 12 percent ROE.

Now let us talk about a bad manager who has a much less safe bank with only 3 percent equity and manages the assets rather poorly, earning only 2.5 percent return on assets before interest. Well, that results in almost a 19 percent ROE. In other words, if you are a bad manager, you can make yourself look good and actually better than a good manager by just having higher leverage, which may very well be, in part, some of the incentives for the high leverage that we see out there.

One of the questions that is often asked is where will all this equity come from? Well, that is an easy question to answer. First of all, it does not require new resources. It does not require new saving. It just requires that the banks change the promises that they have been making. In fact, it can come very easily. It can be built up rather rapidly by just preventing banks from paying dividends or other payouts to shareholders. They will not do that voluntarily because it takes away the subsidy, but they should be required to do that in the interest of the social good.

There is also a statement that is made that we should have a level playing field. I agree with that up to a point. I certainly do not agree with that, if we were leveling our playing fields by making our banks risky at taxpayers' expense. That is no way to run our financial system.

So ultimately, my analysis is really quite simple here. What we need to do is get the Government less involved in the financial sector, and to get it less involved, that means we have to require that the private sector put up more equity and bear the risks that the taxpayers are now bearing that distorts the system and leads to financial crisis.

Thank you, and I look forward to questions.

Senator BROWN. Thank you, Dr. Pfleiderer. I will start with you.

I want to sort of take perhaps to another step your uranium processing plant metaphor, analogy. In an article you wrote, "Fallacies, Irrelevant Facts, and Myths in the Discussion of Capital Regulation: Why Bank Equity is Not Expensive," you point out that non-financial companies typically hold more capital than is require of banks. That is according to a research paper by the New York Fed. You pointed out the typical non-financial firm has equity that exceeds 50 percent of its assets while the median capital ratio of commercial banks is about 8.5 percent.

Two questions. Why do we allow financial companies to hold so much less of their own money, and is that a sort of a long-term—are we sort of subsidizing, encouraging finance over other sectors, perhaps manufacturing, in the economy? And let me parenthetically add, before you answer, my State is the third-largest manufacturing State in the country behind only States much larger, Texas and California, in terms of what we produce. In our country, only 30 years ago, we were about 25 percent of GDP was manufacturing and financial services was 10 or 11. That has more or less flipped in the last 30 years. Is that part of the reason that we allow financial companies to hold so much less of their own money, in essence, than we do other sectors of the economy?

Mr. PFLEIDERER. So I think this comes about through several methods. First of all, neither I nor my co-authors or, I think, anyone else at this table is arguing that banks should have 100 percent equity. Certainly, some of the debt that banks use to fund, in particular deposits, and most particularly deposits, has social value. It is used in the payment system. So we are not arguing for 100 percent equity, but there is a lot of debt that the banks use that is just used basically to get additional funding that exploits the Government subsidies that I mentioned.

So I think one of the things that has happened, especially probably after 1970 or so, is this notion of too-big-to-fail has created subsidies to the banks in the sense that there is a backstop that the investing public realizes is there that basically encourages debt. And the problem feeds on itself because a lot of companies out there would love to have the Government insure their debt, as well, because that would allow them to issue more debt and get a bigger tax advantage because of the tax advantage of debt. The only sector that can do that is the financial sector because they do have this implicit subsidy and that is what has caused them to lever up.

And what I think is pretty easy to document is that that has created incentives for the financial sector to grow far bigger than what is probably socially justified, and the increase in the size has basically been to exploit this subsidy.

Senator BROWN. Dr. Stiglitz, the implicit subsidies he talked about, what are the effects of those distortions and the implications for our economy?

Mr. STIGLITZ. Well, they are very severe. First, the point is, following up on what Paul said, that because of the implicit subsidy, particularly the too-big-to-fail banks can get access to capital at a lower cost. So you can see it in their cost of funding. So they get capital at lower cost than one of your manufacturing firms in Ohio, and that leads them to expand.

The second point is that because the too-big-to-fail banks have lower costs than community banks, and the too-big-to-fail banks often do not focus on lending to SMEs and the community banks, we get a distorted economy. So the parts of the financial sector that are involved in small and medium-sized enterprise lending are relatively starved of funds relative to the big banks that are engaged in more speculative activities.

The net result of this is that our economy gets distorted in several ways. We have been focusing on the size, but it is also the case that the kinds of activities that they engage in is distorted so that, for instance, if you have a Government guarantee, you are more willing to undertake greater risk taking. So rather than lending on the basis of solid information to small and medium-sized enterprises, you start going into non-transparent CDSs and engaging in speculation, knowing that if you gamble big and you win, you walk off with the profits. If you gamble big and lose, the taxpayer picks up the losses.

So both *ex ante,* before crisis, the economy is distorted. But then, of course, once the crisis happens, the economy bears an enormous price, and this is what has been said by several people this afternoon. This is not capitalism. You mentioned, I think, in your own remarks that when you have socializing losses while you are privatizing gains, you get a distorted market economy. So this is really undermining the functioning of a market economy, and that is why economists of both the left and the right agree that this is a very serious distortion in our economy.

Senator BROWN. Dr. Kane, his comments about advantaging or disadvantaging various banks, large banks, small banks, you said that we have sewed huge loopholes into capital requirements. Talk through, if you would, how the fact that large banks are more highly leveraged than regional banks or community banks, how this advantages big banks. What other—and Dr. Stiglitz talked about how they can borrow money, obviously, at less cost than other entities, I assume. He was talking about manufacturing, but also smaller banks. Talk to me about the advantages that the larger banks enjoy as a result of that, if you would.

Mr. KANE. Sure. Dr. Stiglitz emphasized that there was an implicit subsidy to risk taking in the financial sector. The larger institutions can hire better accountants and better lawyers and better lobbyists to see that the way in which risk is assessed in the capital requirement system favors them. We have seen a number of institutions around the world fail even though they met the Basel requirements for capital-to-risk-weighted assets. That is because the Basel risk weights were wrong. In fact, a lot of the riskiest assets were not even being counted in the system. That is no accident. The industry is always here before Congress and other legislative bodies and before regulatory agencies exaggerating how devastating it would be if innovative assets were treated in a more transparent way.

Most loopholes come from non-transparency, and in practice, from a fixed-weight system that, once it is set in place, can be gamed. It is a little bit like blackjack, where you have a fixed strategy on the part of a dealer and a variable strategy on the part of the player. If the player plays optimally, he will kill the house in the long run.

Mr. STIGLITZ. Can I make——

Senator BROWN. Sure.

Mr. STIGLITZ.——one more example of the nature of the difficulty, and going back to the CDSs, and one of the issues that was debated before the Dodd-Frank bill was passed, and that was the issue of whether depository institutions that had a Government guarantee, FDIC-insured institutions, should be allowed to write CDSs. In other words, the extent to which they should be allowed to engage in non-transparent over-the-counter gambles. It is not clear—they will call them insurance policies. If they are insurance, they ought to be regulated by insurance. But if they are gambles, it is really peculiar that the Government is insuring people's gambling.

But whether they are insurance or gambling, they are not a lending activity. So what are they doing inside a Government-insured depository institution? But once you have it inside the depository institution with the Government backing them, they have an incentive to engage in this kind of trading, and that is why in the months after the crisis it was so clear. Most of the profits they were making were associated with trading, not with lending. The American people were told the reason for the TARP bailout was to get lending started, but that never happened. But they used that basis and access to the Fed window at zero interest rate—close to zero interest rate—to undertake a high leverage and to undertake very highly risky trading activities which they generated high returns, but with the Government backstopping them.

Mr. KANE. Could I make a point about those high returns, that one of the questions that come up about the safety net, if you go back in time, was that nobody seemed to lose money on these gambles. They were actually making money. But we see now in the crisis that this money was actually extracted from the taxpayer in advance. It was not profitable at all. It did not help anyone. In fact, it hurt.

Senator BROWN. Thank you. Mr. Ludwig, I want to read a sentence written by Anat Admati, a finance professor at Dr. Pfleiderer's Stanford. She said, "There is no credible way to get rid of bailouts except with capital." Do you agree with that?

Mr. LUDWIG. I think that capital is tremendously important, as Professor Admati said. No regulator would look at that as an unimportant tool. But I would say a couple of things about capital.

First, the high leverage, which has been rightly criticized by my fellow panelists, the excesses of 40:1 to which you referred, Mr. Chairman, was largely outside the commercial banking system. I think it is excessive. It should not exist. Fortunately, you and the rest of the Congress has put a lot of that to rest in terms of the banking system with very, very strong capital requirements.

The second thing I would say is that capital is only one tool. It is almost impossible to have so much capital that you can prevent failures of financial institutions. Financial institutions, particularly commercial banks, typically fail not because of a lack of capital. They fail because of liquidity inadequacies. It is the nature of the fractional banking system. Fortunately, there, too, both Dodd-Frank and Basel have been focusing attention over the last year-plus on the liquidity ratios that banks maintain. That is yet another tool in the toolbox. There are multiple tools, and what we lacked in the last decade was the utilization of those tools with sufficient vigor. Again, fortunately because of the new law as well as the increased energy at the financial regulators, those tools are being used vigorously now.

I think our issue going forward is striking a balance so that we have a stable financial system, which we must have. We must have a financial system that can support the economy of the United States, and I think right now, the dangers we face are losing that balance and becoming overzealous in the way we implement Dodd-Frank in a way that actually will retard growth.

Senator BROWN. Let me follow up on that, with balance. You had said earlier in your testimony, you said, we now have very tough capital standards because of Dodd-Frank, because of Basel III. You might want to ask your seatmates to comment on that.

But first, tell me what you think the Fed should do with SIFIs in terms of—I assume you are saying the capital requirements of Basel III are about right now. Give me your thoughts on what the Fed should—what they should impose on SIFIs, the largest banks, the financial companies. Should they go beyond Basel III? If so, give me your thoughts on a range.

Mr. LUDWIG. Well, you know, Basel III gives the national regulator a two-and-a-half percent capital cushion on top——

Senator BROWN. And you agree with that?

Mr. LUDWIG. I think that makes sense. However, I would not go beyond that. Why? Because the capital increases have been so significant. We are in new territory now, and capital increases do have an impact on lending and on the ability of these institutions to support the economy. We have multiple other tools, and before we take additional steps, we ought to see what the cumulative impact is of the implementation of those tools so that we can again have a tough regulatory environment and a stable financial system, but also one that can support the economy of the United States.

Senator BROWN. Thank you. The push-back that I hear around—in Ohio and here—against higher capital requirements, significantly higher, higher than Basel III, higher than some bankers have said, and as high as some of you have recommended on the panel, were two things. One is the comparative competitive disadvantage with European banks, and second, that it would cause banks not to lend if we required higher capital standards, especially higher equity standards. Would the other three panelists comment on your thoughts about that push-back, that higher capital standards would mean U.S. banks are at a competitive disadvantage and would mean U.S. banks would not lend to the degree that we would like them to optimally. Do you want to start, Mr. Pfleiderer.

Mr. PFLEIDERER. So I want to actually, with your permission, just address an issue that came up here. Liquidity is potentially a problem. It has always been a problem in the banking system. But liquidity in our modern system is only a problem when there is really a problem with insolvency. So if a bank has a liquidity problem but it is very solvent, in other words, has a lot of equity, then there is no problem at all with going to the Fed and pledging assets, taking a big haircut on them and getting liquidity. It does not put the taxpayer at risk.

The real issue and the issue that we had in the last crisis was not just a liquidity issue. It was really an issue that related to insolvency, understanding that potentially a counterparty may be below water.

So the issue in terms of, first of all, competitiveness with European banks and also with cutting back on lending, first of all, we do not want to be competitive if it requires that we put our whole economy in jeopardy. If banks require a subsidy, and it is not clear that they do, but if banks require a subsidy, by all means, we should give it in a way that does not require high leverage. So we could have high capital requirements and that does take away some subsidies that the banks are now getting. If for some reason we decide that banks need to be subsidized because they are doing something that is underproduced, we need to give those subsidies in a way that does not create a fragile banking system.

And just to tell us where we are right now with respect to these capital requirements, one thing that I was going to mention in my opening remarks and did not is that just a few weeks ago, Moody's announced that the support rating that it was giving to, say, Bank of America, was five notches above what it would give without Government support. So this indicates that, looking forward, to the extent the rating agency is factoring things in correctly, the Government support is moving the Bank of America debt from what would be minimum investment grade up to very high quality.

So one way to answer the question of how much capital do we need, well, one barometer, one monitor for that would be if we have enough capital so that players in the economy, including the rating agencies, do not see Government support in there. In other words, we are not subsidizing banks.

Senator BROWN. Does it bother you, Dr. Pfleiderer that Joe Nocera, in an article he wrote a couple of months ago, said that European banks have fought fiercely against capital requirements.

Does that bother you as an observer of what this means for American banks and our competitiveness and our behavior, if you will?

Mr. PFLEIDERER. It bothers me to the extent that we live in a global economy and, unfortunately, we cannot insulate ourselves from mistakes that are made in Europe. So we have an integrated economy and if the Europeans run their banks such that they are very fragile, there is no doubt that problems created there can spill over into our economy. So I——

Senator BROWN. And they are surely more fragile than ours.

Mr. PFLEIDERER. They certainly are. So I think that the goal here is to——

Senator BROWN. Let me interrupt——

Mr. PFLEIDERER.——not race to the bottom, but race to the top. We need to get global standards that are much higher. But what we should not do is sink to the low standards of the Europeans so that we put ourselves in jeopardy as well as the Europeans. Rather, we should figure out a way, if we need to, to subsidize our banks that does not require high leverage. And again, that is a proposition that I do not think has been demonstrated, that banks need subsidies. But if they do, we should do it in a way that does not create fragility in our own economy.

Senator BROWN. Comments, Dr. Kane and then Dr. Stiglitz, and then Mr. Ludwig.

Mr. KANE. The mistakes being made in Europe have come back to affect the credibility of the sovereign support that European banks enjoy. If you take Ireland, the banks there were allowed to run up more debts under Government guarantees than the Government of Ireland could ever pay off by collecting taxes from taxpayers. Somebody is going to have to absorb the differences. Europe is going to learn that subsidizing risk taking by their banks is eventually going to ruin their economies for a while. Because governments have been subsidizing banks in the past does not mean they will take away business in the future. I think one of the lessons of this crisis is that depositors and other creditors are going to look through the banks to the condition of the sovereigns and look for regulation that they can trust.

Senator BROWN. And the lesson, the primary lesson, is higher capital requirements?

Mr. KANE. Well, I think the primary lesson is you have to focus on the difference between average versus marginal requirements. We are talking about high average requirements and banks are fighting them. But even banks ought to want to be sure that, at the margin, governments are not subsidizing foolish risk taking. That is the issue that needs to be addressed around the world. We can have lots of differences in the systems adapted to the countries and the cultures of those countries, but we want to make sure that, at the margin, we have found ways to discourage firms from finding ways to hide risks, or hiding or disguising a shortage of capital.

Senator BROWN. Dr. Stiglitz.

Mr. STIGLITZ. Yes. First, I want to address the second question you raised about would banks not lend. I think I want to go back to my first remark, which is that a change in the debt equity—change in the financial structure of banks does not really increase their costs except to the extent that there is a hidden subsidy through the bank bailout, so that to the extent that we can put aside the subsidy, the fact is that there would not be higher cost and, therefore, there would be no reason there would be less lending.

Now, this is where the point——

Senator BROWN. Do you agree with that, Mr. Ludwig, there would not be higher costs for the bank? And then I will get back to the rest of your answer, Dr. Stiglitz.

Mr. LUDWIG. I think the issue here, as a practical matter, Mr. Chairman, is that raising equity capital is so costly, particularly at this time. And banks have already done so much to increase their capital positions. So instead of raising additional capital, they may consider simply shrinking their balance sheets in order to accommodate higher capital charges.

Senator BROWN. Will it make them more reluctant to issue dividends?

Mr. LUDWIG. As you know, dividends actually have been restrained by the Federal regulators——

Senator BROWN. Right, but recently, they were, in fact, distributed, and there was some thought from Simon Johnson and some others that the banks, because of equity issues and their saying that they could not attract enough equity, that they ought to hold on to their profits for a period of time for equity reasons. Is that sort of the line of thinking?

Mr. LUDWIG. It is a matter of balance, Mr. Chairman. If they cannot issue reasonable dividends, it makes it harder to attract capital. And it also undercuts the confidence the public has in the institutions themselves. If they are not in a position to pay a reasonable dividend—one is not talking about anything excessive here—then I think the public loses confidence in the institution. So I think it is a matter of balance and proportion.

Senator BROWN. Dr. Stiglitz.

Mr. STIGLITZ. I actually would argue just the opposite, that if they have more capital, there will be more confidence in the public, and that, as I said in my testimony, that, in fact, there is a problem of transition. How serious it is, it is hard to ascertain. But if there is that problem with transition, we should impose this requirement that they not pay out dividends, not pay out excessive bonus pools, and that would allow them to recapitalize the banks and put it on a safer basis so that we would not have the taxpayer underwriting them.

The important point I wanted to emphasize, though, is the fact that, as Paul emphasized, equity is not costly, that actually, when you have a higher leverage, what you are effectively doing is increasing the risk of equity. It is not like there is a fixed price. So that is the fundamental flaw in those who emphasize the high cost of equity, that when you go to high leverage, you are actually driving up, in effect, the cost of equity, or you are just shifting risk.

I want to come to just a couple of other points related to the question you posed. One of them is the issue of—this is related—the discussion about—this debate about liquidity risk versus solvency risk. The point here is that when there is a lower equity base, there is a higher probability of a bankruptcy, of a problem, and, therefore, a higher likelihood that nobody will give money to the banks. That is what causes a liquidity crisis. If everybody knew the banks were solvent, there would be no liquidity problem. It is because they get afraid that the bank is solvent that there is a liquidity crisis. So these two issues are intertwined and the risk of a liquidity crisis which shrinks lending and undermines the economy is related very much to inadequate capital.

Now, on the issue of the competitive disadvantage, I want to agree with what was said. We have to prevent a race to the bottom, and that is what has been going on. But I guess there are two other points I would also raise. First, the framework for regulation inside the United States should be national treatment, so that if we have companies, financial institutions coming into the United States, we regulate them as national institutions. They ought to be, I think, incorporated if they become significant and have a subsidiary, not a branch.

This basic principle means that the United States is a large market. Banks will want to operate in the United States and we can set the regulations that protect the American economy. That is our first responsibility, protecting the American economy, protecting our jobs, protecting the stability of our society.

The issue about can our banks compete abroad—well, first, I am not really that worried about that, but if it were the case, this is a small—you know, in terms of our national economy, how many jobs are created in America by the banks operating in Europe, or in Latin America? Relatively few. This is not a major industry for the rest of our society.

So in my view, we should be focusing on the United States and protecting the United States and not on creating some jobs in Europe in which, yes, there are little profits that go into American banking firms, but this is a really minor issue for our economy.

The final point is that if—to look at the other extreme, we should not have the set of regulations in the United States dictated by the worst banking regulator in the world. We do not want Iceland and Ireland to dictate the terms of American banking regulation. So, yes, the banks are always going to say there is some country that has been bought by the banks and is going to have low regulation and can do things that we cannot do. But what we need to do is to be focusing on what is good for the American economy.

Mr. LUDWIG. Joe, if I might say so, I could not agree with you more, but there are three points to note. Number one, we do not need to fight the old war. The fact is that, thanks to Congress and the Basel Committee, in a sense, we have already won the war. We have much higher capital standards.

Number two, I could not agree with you more: We do not want to have a race to the bottom. We do not want to change what we have by way of regulation and supervision. What we want to do is use our clout to ensure that the regulation and supervision abroad, particularly with respect to capital standards which are set internationally, are applied fairly. The reason is anomalies and blowups abroad affect our economy. So the issue in terms of competitiveness is to raise the standards of regulation and supervision outside the United States to meet our higher standards.

Number three, I would take issue with what a number of panelists have said. Irrespective of the amount of capital, if people get panicked enough, they withdraw funds. And the reason is, in part, because the genius of banking is two-fold. One is the maturity transformation ability of banks. That is, they take in short-term funds, people's deposit accounts, checking accounts, and they lend it for longer periods of time, because if you are going to build a plant and equipment, it may be 5 years' payback. And as I said, the genius of the banking system is that maturity transformation.

That means that the bank is always going to be short if everybody runs to the window, and we have seen this in the 1930s movies of the Great Depression. You never have enough in the till. It is a matter of confidence, so that capital is certainly important, but all the capital in the world will not in and of itself stop banking runs. Banking runs get stopped by the public having enough confidence that the regulatory mechanism is doing its job, and that the institutions are functioning correctly. That is precisely the framework that has been put in place by Dodd-Frank and the heightened regulatory vigor.

Senator BROWN. Mr. Ludwig, if you were to—if, some say, higher capital requirements will dampen, will reduce the amount of lending, why not have—and this is a bit rhetoric, but a bit not—why not have no capital requirements? Would that mean more lending? Would that mean our economy would get back on its feet and people can get capital?

Mr. LUDWIG. No, Mr. Chairman. The art of banking and the art of finance are matters of balance and proportion, and no capital would have some of the unfortunate externalities that Dr. Stiglitz and others have referred to. People would say, "Oh, my God, they have got no money in the till at all." I think that is going way too far.

But the practical problem for today is having raised capital so significantly—as I mentioned, a 300-percent increase in common equity—you get to a point at which even if it is only a transition period, and we are in a very delicate economic period right now, that banks faced with additional capital requirements are going to start shrinking their balance sheets. After all, lending takes up a lot of that balance sheet and a lot of the capital need, and lending is a risky business. So it is easier for the institutions in terms of these commercial loans, which get 100 percent capital weight, to shrink their balance sheet.

Senator BROWN. Dr. Kane.

Mr. KANE. I want to say several things.

First, we do not really have much higher capital requirements now. These are all to come in the future, and we have a lot of lobbying against their actually being installed. We actually have a capital-short banking system today, the taxpayer.

Senator BROWN. The numbers Mr. Ludwig is talking about are the future, not today?

Mr. KANE. Not today.

Mr. LUDWIG. Well, that is right on paper, but what happens is that the markets, anticipating those requirements, actually impose pressure on the institutions to raise capital in the short term. So the institutions have, in fact, been raising capital in advance of the requirements and have been pressed by the regulators, correctly, to push those capital standards up now.

Senator BROWN. Dr. Kane.

Mr. KANE. They are being pushed that way, but as you know, weak banks were trying to get permission to pay dividends, as you mentioned, Senator, and had to be restrained.

Congress is seeing a lot of lobbying pressure against the implementation of cutting-edge Dodd-Frank reforms. I do not think we have to worry about the U.S. banking system ever being overregulated. I think that the lobbyists will see to it that the system is underregulated at the margin. And the main point about runs is not that when we have a crisis, we can never have enough capital. The larger point is that capital deters runs. Where did we have the runs in this last crisis? At money market mutual funds and in various off-balance-sheet vehicles, such as structured investment vehicles. Structured investment vehicles were allowed to be pulled back onto bank balance sheets. That is when the banking system began to look terribly, terribly weak.

And, finally, on maturity transformation, you know, the S&L industry shows us that you have to regulate maturity transformation. The S&Ls that were making 30-year loans with passbook money became insolvent very quickly when interest rates went up. And interest rates are going to go up again in this country, and when they do we have to be very concerned about institutions that are borrowing, say, overnight and lending for even 4 or 5 months, never mind 5 years.

Senator BROWN. Thank you.

I am going to conclude. I want to ask Mr. Ludwig one more question, but I am going to conclude—and I will give you a moment to think about it—with each of you to give me the one or two significant improvements you would suggest to Dodd-Frank. I will finish with that, so give me one or two thoughts of improving Dodd-Frank in your mind.

Mr. Ludwig, Richard Cordray, the former Attorney General of Ohio, came to see me this week. I have known him for many years. He is the new—I will not say the new Director of the Consumer Financial Protection Bureau because this confirmation is probably in some doubt. You recently wrote an article for American Banker about competitive advantages of the shadow banking system, the shadow banking sector—system, if you will. You said, "If the newly minted Consumer Financial Protection Bureau does not have a Senate-approved leader by the first anniversary of Dodd-Frank"—last week, July 21st—"an unintended consequence kicks in. The CFPB will be free to examine and take action against banks with more than $10 billion of assets, but not against their non-bank competitors."

Are you saying traditional banks are hurt by efforts to block the appointment of the Director?

Mr. LUDWIG. Yes, they are, actually. I am, as you know, Mr. Chairman, a huge supporter of consumer protections and services to low- and moderate-income people. I think it is very important that we have a functioning agency, and in that regard the odd anomaly of not confirming Mr. Cordray, is that there will be imposition on the banking sector of consumer rules—not a bad thing—but there will not be an imposition of those rules on the non-bank financial sector, the shadow banking system—not a good thing. So I think we ought to get about moving forward here.

Senator BROWN. OK. Thank you.

In conclusion, I would let each of you start. Dr. Stiglitz, since you began, what one or two improvements would you make to Dodd-Frank?

Mr. STIGLITZ. Well, it is hard to limit it to just two.

Senator BROWN. But you are going to have to.

Mr. STIGLITZ. If I can, I will go a little beyond that.

Senator BROWN. And, certainly, any of you can submit in writing anything about today's hearing. You have 7 days afterwards, including Dr. Stiglitz's 28 recommendations for changing Dodd-Frank.

Mr. STIGLITZ. OK. Well, the first is the point that I think most of us have raised, the concern about too-big-to-fail banks. Something should have been done about that, something on the Brown-Kaufman amendment should have been included.

Senator BROWN. I would vote for that.

Mr. STIGLITZ. The second one is much higher capital requirements along the lines that we have been, most of us have been talking about. And I do not think Basel III goes anywhere near far enough.

The third is the CDSs exemplifying the continuing excessive risk taking. The point I made before that they continue to be engaged in by FDIC-insured institutions makes absolutely no sense. The fact that a large fraction of them continue to be over-the-counter and non-transparent, and the increasing concern that the exchanges themselves, there were not adequate capital requirements imposed on the exchanges, so that there is a risk that if the exchange goes down, again, we have systemic risk.

There should have been joint and several liability of all of those trading in the exchange for the losses so that the taxpayer does not have to pick them up, and the IMF has put forward actually some recommendations along those lines.

The final point is the anticompetitive practices of the banking sector in the control of the means of payment, the credit cards, the debit fees, are an outrage and are a major source of revenue which distorts our economy and hurts ordinary retail merchants throughout our country—small businesses, again, grocery stores that—there are some cases where 50 percent of their profits go on the sales of groceries are given to the banks when they are paid for by credit card. And that seems disproportionate to the services provided.

Senator BROWN. Thank you, Dr. Stiglitz.

Dr. Kane?

Mr. KANE. Well, I can reduce my advice to two themes, though many of Joe's "points" would go under my "themes."

Mr. Ludwig made the point that the Office of Financial Research is potentially one of the great innovations of Dodd-Frank. Missing today is a Director for this Office of Financial Research, and, of course, its governance has been placed under a very complicated 17-member committee. So I think that Congress really has to address the need to measure and publicize the cost taxpayers incur in supporting national and international safety nets. This will be the job of the Office of Financial Research, but it needs to be assigned to them in an independent way. Second, to help authorities to contain systemic risk skillfully and conscientiously in the long run, governments need to change the way regulators are trained, recruited, and incentivized. I believe that a national or international academy for financial regulators could help in both tasks.

Senator BROWN. Thank you. Terrific idea.

Mr. Ludwig.

Mr. LUDWIG. Three things.

One, I lament the fact that we do not have a single prudential supervisor. Dr. Stiglitz and I advocated for that early on in the Clinton administration. The countries that have done better—Australia, Canada, and Japan—during the crisis had a single, pure-play, focused, and professional prudential supervisor. I think that would advance the cause of the financial stability in this country markedly.

I agree with Dr. Kane that education for financial supervisors is critical, and we do not have it adequately in this country. As I said, no college or university offers a degree in regulation and supervision.

The third is not a new change to the law, but I think it is absolutely essential that we implement Dodd-Frank with prudence and care. Excess here will actually not advance the benefits of safety and soundness. There are only so many hours in a day, and we want our financial institutions and regulators targeted on those things that matter most, not on those things that are extraneous.

Furthermore, excess here will put a drag on the economy, which we can ill afford at this time.

Senator BROWN. Thank you.

Dr. Pfleiderer.

Mr. PFLEIDERER. I am afraid since I am going last, I probably do not have much to add here, so I will just in some ways just reinforce what has been said here.

I have made the analogy—it may not be the best analogy—that we are basically trying to regulate cars that are speeding down the road at 100 miles an hour that are only 5 feet apart. And, of course, that requires very careful regulation to make sure that the cars do not hit each other when the obvious solution is just to have the cars have a greater buffer between them and follow each other at much greater lengths. And that is capital. I do not think we have enough. I think that Basel III is not enough. I think that capital does not solve everything here, clearly, but it solves a lot by just putting in much more privatization of losses rather than the socialization of losses we have now. So I want to reinforce that idea that we need more capital.

I have not thought very much about having a single regulator, but having heard this idea, it makes a lot of sense to me, and I think that that probably moves in the direction of taking care of a lot of the fragmentation that we have now.

And I think that getting the Office of Financial Research up—the problem is that the next crisis may not happen in the way—almost certainly will not happen in the way the last one did, and we need to constantly be vigilant, and being ahead of the ball rather than behind it is going to be useful. And I think that the OFR can help us that way. So getting that up and running is certainly important.

Senator BROWN. Good. Thank you. Thank you all for the spirited discussion and for your public service. It was very helpful today.

Thanks especially to Laura and the majority committee and the minority committee staff, and to Jeremy and to Eve and to Graham in my office, I appreciate all of this.

Thank you. We are adjourned.

[Whereupon, at 3:28 p.m., the hearing was adjourned.]

[Prepared statements and responses to written questions supplied for the record follow:]

PREPARED STATEMENT OF JOSEPH E. STIGLITZ, PH.D.[1]

PROFESSOR OF FINANCE AND ECONOMICS, COLUMBIA BUSINESS SCHOOL, COLUMBIA UNIVERSITY

AUGUST 3, 2011

Thank you for this opportunity to address the question of the financial structure of the banking industry, which I believe is central to the future stability and prosperity of the American and global economy.

Two fundamental analytic insights, buttressed by some empirical observations should inform our thinking about the appropriate regulation of banks, including capital requirements and risk taking. The first is that when information is imperfect and risk markets incomplete—that is, always—there is no presumption that unfettered markets will result in efficient outcomes. The reason is that actions give rise to externalities, consequences that are not borne by those undertaking them.[2] There is a misalignment of private and social returns.

This result is of central importance in banking and finance, because the very rationale for the sector arises out of risk management and the acquisition and utilization of information necessary for the efficient allocation of capital. The externalities consequent to the excessive risk taking of the banks are manifest: it is not just the costs of the bailouts and the millions of Americans who have lost their homes, but the literally trillions of dollars of lost output, the gap between the economy's actual and potential output, the predictable and predicted fallout of the crisis. The resulting suffering—including that of the 25 million Americans who would like a full-time job and can't get one—is incalculable. The budgetary problems facing the country too are in no small measure a result of the inevitable decline in revenues and increase in expenditures that follow. It is well-known that recoveries from financial crises are slow and painful.[3]

This crisis not only demonstrated the importance of the externalities to which failures in financial markets give rise, but also the importance of what economists call agency problems—those, like bank officials, who are supposed to take actions on behalf of others, who have a fiduciary responsibility, often have incentives that lead them to take actions that benefit themselves at the expense of those that they are supposed to serve. The so-called incentive systems in place in the financial sector may have served the bank managers well, but they did not serve well shareholders or bondholders, let alone the rest of society.[4]

The second fundamental insight is that increased leverage in general does not create value, but simply shifts risk—as leverage increases, increased risk is placed on the equity base. This is the central insight of the Modigliani-Miller theorem.[5] In the 1960s and 1970s, I showed that that result was far more general than Modigliani-Miller had thought—but that there were limitations too, most of which cautioned

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[1] University Professor, Columbia University; recipient of the 2001 Nobel Memorial Prize in Economics; former Chair, President Clinton's Council of Economic Advisers, Former Chair, Commission of Experts on Reforms of the International Monetary and Financial System, appointed by the President of the General Assembly of the United Nations, 2009, President of the International Economic Association. All views are personal.

[2] See B. Greenwald and J.E. Stiglitz, "Externalities in Economies with Imperfect Information and Incomplete Markets," *Quarterly Journal of Economics,* Vol. 101, No. 2 (May), pp. 229–264, 1986. For an excellent discussion of these externalities at the macroeconomic level, see A. Korinek, "Systemic Risk-Taking: Amplification Effects, Externalities, and Regulatory Responses," working paper, University of Maryland, 2011.

[3] See, *e.g.,* C. Reinhardt, and K. Rogoff, 2009, *This Time Is Different: Eight Centuries of Financial Folly.* Princeton University Press or J.E. Stiglitz, "Rethinking Macroeconomics: What Failed and How to Repair It," *Journal of the European Economic Association,* 2011.

[4] There is by now a large literature explaining and documenting this observation. See, *e.g.,* J.E. Stiglitz, *Freefall: America, Free Markets, and the Sinking of the World Economy,* New York: W.W. Norton, 2010. Indeed, well before the crisis, it was noted that managerial incentive structures ("incentive pay") had perverse effects, not only in encouraging excessive risk taking and shortsighted behavior—which is particularly costly when it occurs in the financial sector—but also in encouraging dishonest accounting, so manifest not only in this crisis, but in the scandals that marked the beginning years of this decade, epitomized by the Enron bankruptcy, the largest bankruptcy up to that point. See, *e.g.,* J.E. Stiglitz, 2003, *The Roaring Nineties,* New York: W.W. Norton.

[5] F. Modigliani and M. Miller, 1958, "The Cost of Capital, Corporation Finance and the Theory of Investment," *American Economic Review,* 48, 1958, pp. 261–267. From early on, it was recognized that theorem was relevant to financial firms as well as non-financial firms. See M. Miller, 1995, "Do the MM propositions apply to banks?", *Journal of Banking and Finance,* 19(3), pp. 483–489.

against excessive leverage: if there were real costs to bankruptcy (as there are), then increased leverage increased the likelihood of these dissipative costs.[6]

In the financial sector, the social costs of increased leverage are even greater, because of the societal costs associated with the externalities that I described earlier.[7] The misalignment of incentives is even more in the case of too-big-to fail banks—banks that are so large that the potential consequences of allowing them to go bankrupt poses an unacceptable risk. Their failure poses a *systemic risk.* They can reap returns from risk taking, with the losses borne by the Government. But too-big-to-fail banks present another major distortion: because those providing them with capital know that they are too-big-to-fail, that there is at least a higher probability of their being rescued (evidenced so clearly in the recent crisis), they can get access to finance at lower costs,[8] and thus they can grow relative to competitors, not because of their relative competence, but because of the implicit subsidy. As they grow, the likelihood of a rescue increases, and their profitability is enhanced not just because of the increase in the implicit subsidy but because of growing market power, providing further distortions to the market. Moreover, banks know that if they become too-big-to-fail (or too intertwined to fail, or too correlated to fail) they will have an enhanced likelihood of being rescued; they thus have strong *incentives* to become too-big-to-fail, too intertwined to fail, and too correlated to fail—as we saw in the recent crisis. Systemic risk is real, and markets by themselves work to increase it, not to mitigate it. The notion that risk would be spread efficiently, through diversification, was either pure propaganda, or based on models that showed insufficient understanding of market incentives, of the nature of contagion, and/or of the consequences to systemic stability posed by the non-convexities to which contagion and bankruptcy give rise.[9]

The key empirical observation is that markets are often not rational in assessing risk; this is true even of the so-called experts, but even more so of those who are financially unsophisticated.[10] Alan Greenspan testified to this before Congress, when he expressed his surprise that the financial markets had not managed risk as well as he had expected.[11] But, while he was correct in the conclusion that financial markets had done a miserable job of managing risk—one of their central societal functions—I was surprised at his surprise. After all, anyone looking at the incentive structures confronting key decisionmakers should have realized that they had incentives for excessive risk taking and short sighted behavior. (That they had

[6] See, in particular, J.E. Stiglitz, 1969, "A Re-Examination of the Modigliani-Miller Theorem," *American Economic Review,* 59(5), December, pp. 784–793 and J.E. Stiglitz, 1974, "On the Irrelevance of Corporate Financial Policy," American Economic Review, 64(6), December, pp. 851–866. In particular, I showed that the kind of arbitrage that Modigliani and Miller had invoked in their analysis was not necessary to establish the result. I established that there did not have to exist a set of risk classes as they had assumed; and that the conclusions held in a very generally specified general equilibrium model. What was required was that the level of debt was not so high that there was a risk of bankruptcy. For a discussion of some of the other restrictions that have to be satisfied for the result to be true, see the footnotes below.

[7] The problem would arise even if all the costs were borne by a self-financed deposit insurance scheme, and if there were no macroeconomic externalities.

[8] See for example D. Baker and T. McArthur, 2009, "The Value of the 'Too Big to Fail' Bank Subsidy," Center for Economic Policy and Research Issue Brief, September, available at *http://www.cepr.net/documents/publications/too-big-to-fail-2009-09.pdf* (accessed on August 1, 2011).

[9] See, *e.g.,* A.G. Haldane, 2009, "Rethinking the Financial Network," address to the Financial Students Association, Amsterdam, April, available at *http://www.bankofengland.co.uk/publications/speeches/2009/speech386.pdf* (accessed August 2, 2011); A.G. Haldane and R.M. May, 2010, "Systemic risk in banking ecosystems," University of Oxford mimeo; J.E. Stiglitz, "Contagion, Liberalization, and the Optimal Structure of Globalization," *Journal of Globalization and Development,* 1(2), Article 2, 45 pages; and J.E. Stigltiz, 2010, "Risk and Global Economic Architecture: Why Full Financial Integration May be Undesirable," *American Economic Review,* 100(2), May, pp. 388–392.

[10] There is a large literature documenting both systematic and non-systematic but persistent anomalies in capital markets. See, for instance, R.J. Shiller, 2000, *Irrational Exuberance,* Princeton: Princeton University Press; or G. Akerlof and R. Shiller, 2010, *How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism,* Princeton, New Jersey: Princeton University Press. See also J.E. Stiglitz, 1982, "Information and Capital Markets," in William F. Sharpe, Cathryn M. Cootner, eds.: *Financial Markets: Essays in Honor of Paul Cootner,* Englewood Cliffs, NJ: Prentice-Hall, Inc; and the broader discussion of irrationality in capital and financial markets in J.E. Stiglitz, forthcoming, *The Selected Works of Joseph Stiglitz, Volume II,* Oxford University Press. For more on the lack of rationality in much economic decision-making, see for instance R. Thaler, 1994, *The Winner's Curse: Paradoxes and Anomalies of Economic Life,* Princeton, NJ: Princeton University Press.

[11] In Congressional testimony on October 23, 2008, Greenspan described being "in a state of shocked disbelief" that the lending institutions' self-interest had not protected shareholders' equity. Testimony available at *http://democrats.oversight.house.gov/images/stories/documents/20081023100438.pdf* (accessed August 1, 2011).

such perverse incentive structures is testimony to the importance of the agency problems to which I referred earlier.)

But beyond that, Greenspan made another error—if I mismanage risk, if I am irrational in my risk analyses, I and my family suffer, but there are unlikely to be societal consequences. But if a bank and especially a very large bank mismanages risk, the macroeconomy can be seriously affected. There are externalities. It is these externalities that provide the motivation for Government programs (like FDIC insurance and regulation). It is these externalities that explain why self-regulation simply won't work. It is deeply troubling when the country's major financial regulators do not understand the rationale for regulation.

Rational markets would realize that increasing leverage shifted risk, and would demand compensating differentials. (Rational market participants in well-functioning markets would have realized too that a shift to variable rate mortgages from fixed rate mortgages would, on average, not save on financing costs, but would expose ordinary citizens to increased risk. But not even Greenspan seemed to understand this, as he seemed to advise ordinary citizens on the virtues of variable rate mortgages.[12])

As we see banks striving to increase their leverage, there may be uncertainty about what is driving this: is it because in doing so, they increase the implicit subsidy from the Government? Is it because they do not understand the fundamentals of risk? Is it because they understand the fundamentals of risk, but realize that their bondholders and shareholders do not, so that they can extract more money for themselves? But about this there is no uncertainty: excessive leverage has large societal costs. Banks, and especially the big banks, need to be restrained.[13]

Indeed, the analysis above suggests that there are few or no societal costs to doing so, and considerable benefits. It is not as if leverage somehow manufacturers resources out of thin air. Lending is risky. The risk has to be borne somehow. It is borne by equity holders of lending institutions—to the extent it isn't shifted to Government, FDIC, or bondholders, or depositors. It is better to have it better distributed, among a large equity base, given the high social costs of financial disruption. Advocates of low equity requirements for banks need to argue that this is the best way by which the risks of lending should be distributed within the economy—and I have seen not even an attempt to do so.

Recent empirical research has provided considerable support for the views expressed here. Miles, *et al.,* of the Bank of England find no relationship between

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[12] See for example "Understanding Household Debt Obligations," Remarks by Chairman Alan Greenspan at the Credit Union National Association 2004 Governmental Affairs Conference, available at *http://www.federalreserve.gov/boarddocs/speeches/2004/20040223/* (accessed August 1, 2011).

[13] There are a few other reasons that have been mentioned for banks' seeming preference for excessive leverage. One is that the tax system, by allowing tax deductibility of interest, increases the *private* return on increased leverage. But if so, this is not an argument for allowing greater leverage, but for correcting a tax distortion. (A full analysis of the tax consequences has to integrate an analysis of the corporate and individual income tax system. The results are more complex and ambiguous, once the preferential treatment of capital gains is taken into account. See J.E. Stiglitz, 1973, "Taxation, Corporate Financial Policy and the Cost of Capital," *Journal of Public Economics,* 2, pp. 1–34.) Another criticism of the Modigliani-Miller analysis (which I raised in my original evaluations of their work) is that financial structure may convey information. (See, *e.g.,* H. Leland and D. Pyle, 1977, "Informational Asymmetries, Financial Structure, and Financial Intermediation," 32(2), pp. 371–387; N. Maljuf and S. Myers, 1984, "Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have," *Journal of Financial Economics,* 13, pp. 187–221; B. Greenwald, J.E. Stiglitz, and A. Weiss, 1984, "Informational Imperfections in the Capital Markets and Macro-economic Fluctuations." *American Economic Review,* 74 (1), pp. 194–199; and J.E. Stiglitz, 1982, *Op. cit.* But as A.R. Admati, *et al.,* point out, if banks are required by regulation to raise capital when their capital ratio falls below a certain level, then there is in fact no adverse signal (A.R. Admati, P.M. DeMarzo, M.F. Hellwig and P. Pfleiderer, 2010, "Fallacies, Irrelevant Facts, and Myths in the Discussion of Capital Regulation: Why Bank Equity is Not Expensive," Stanford University Working Paper No. 86). To the contrary, the only firms in such a situation that would not raise new equity would be those that believed that their future prospects were bleak: raising new equity would thus provide a *positive signal.* While it may be the case that the cost of raising equity funds may be high in recessions, this is an argument for macroprudential regulations, which adjust capital requirements to the state of the business cycle, or the adoption of related provisioning requirements. A still weaker argument for high leverage is based on the "back to the walls theory of corporate finance"—high leverage force gives management less leeway to behave badly. (See, *e.g.,* M.C. Jensen, 1986, "Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers," *American Economic Review,* 76(2), pages 323–29.) No evidence of this effect was observed in the run up to the crisis. On the contrary, the convexities in payoffs generated by bankruptcy encourage excessive risk taking, of particular concern in the financial sector. These nonconvexities, in turn, have important consequences for systemic stability, which the standard literature ignored. See below.

bank leverage and the spread on business loan rates over T-bill rates, and after a careful (but conservative) analysis of the consequences of increasing bank-equity requirements, concludes that very substantial increases would have very little effect on lending rates.[14]

But even if there were some increases in lending costs as a result of increased equity requirements, those costs have to be offset against the benefits: (a) To the extent that the increased costs are a result of increased taxes paid by banks, then in principle, the Government could, for instance, have broader based reductions in, say, taxes on investment-enhancing growth and efficiency. (b) There are very large societal costs from bank failures, and these can be substantially reduced by higher equity requirements. Based on a conservative estimate of the increased cost of borrowing and plausible magnitudes for the shocks facing an economy, Miles, *et al.,* conclude that substantial increases in the equity requirements are warranted.[15]

There are two responses to this perspective. The first is that increasing equity requirements will increase the cost of borrowing and lead to less investment. But (in a closed economy) aggregate investment is limited by aggregate savings, and there is no reason to believe that the latter will be adversely affected.[16] But most critically, we have argued that in the case of well-functioning markets, there is no basis to this belief. If, of course, markets irrationally do not take into account the additional risk imposed on equity (in the short run), then with increased leverage, funds might be able to be provided at lower than their true social costs. But it would be a big mistake (as we should have learned) to allow banks to do this. As we have learned, society will eventually pay the price for this market distortion—and that price can be very, very high.

The second is that the existing banks (perhaps especially the large banks) have an absolute advantage in judging credit worthiness. Restricting leverage in effect restricts their ability to leverage their core competencies to ensure the efficient allocation of resources in society. The crisis has shown that the predicate of this hypothesis is simply false: the large banks' performance was hardly stellar, and some of their (admittedly low) returns were undoubtedly related to the implicit subsidy provided by the Government. But again, more fundamentally, putting aside concerns about too-big-to-fail and anti-competitive practices, if the existing banks can demonstrate to the market their greater competency, including at managing risk, they will have no difficulty raising capital at the appropriate risk adjusted rate; indeed, if they are better at risk management, then their cost of funds will be lower than that of their competitors.

Some have argued that even if it makes sense in the long run to increase capital requirements, doing so in the short run can be costly, especially at a time such as this when the economy is fragile and the banking system already weak. At most, this is an argument for a paced increase in capital requirements, and one which would not allow any dividends or share buybacks or extravagant bonus pools until the desired capital ratios are reached, unless the bank is raising on the market a more than offsetting amount of capital. But one should, at the same time, be aware of the large risks, especially *under the current circumstances,* of delay: it is precisely because the economy is fragile, banks have inadequate capital, and the banking sector in the aftermath of the crisis is *more* concentrated than before that the risk of a financial catastrophe of the kind that we experienced in 2008 is so great today. The downside risks of not doing something are especially grave now. It may be desirable, or even necessary, for the Government to provide funds for another round of equity injections (hopefully done in a far better way than under TARP), if the private sector cannot raise the necessary funds. But with literally hundreds of billions of cash available in the private sector, it should tell us something about the

[14] D. Miles, J. Yang and G. Marcheggiano, 2011, "Optimal bank capital", Bank of England Discussion Paper No. 31, April. In their analysis, they typically ignore the increased cost of borrowing funds that results from increased leverage, thus overestimating the benefits of leverage. They also find no relationship for the UK between Bank leverage and economic growth. Similarly, K. Kashyap, J. Stein, and S. Hanson argue that the effect on lending rates of a substantial increase in equity requirements would be very small ("An Analysis of the Impact of 'Substantially Heightened' Capital Requirements on Large Financial Institutions," Working Paper, 2010).

[15] They look at shocks over a sample of 31 countries over 200 years. We suspect that Miles, *et al.,* estimate of the small benefit from increased equity in fact considerably overestimates the net social benefit, taking into account the costs of bankruptcy and financial distress.

[16] Indeed, if the argument that changing bank capital structure increased the cost of capital to banks were correct, it would imply that the return to those providing funds to the financial system would have increased, and thus arguably that savings might have increased. In fact, we have contended that the systemic cost of capital (return to capital) would be essentially unchanged, and thus, whether the economy is open or closed, whether it is operating at full employment or less than full employment, there is little reason to believe that aggregate savings or investment would be affected.

riskiness of the banks (and perhaps their lack of transparency) if the private sector is not willing to make these investments.

I have focused my remarks this afternoon on increasing banks' equity capital. There are a number of other factors affecting the risk to the economy posed by the banking and financial sector. I have noted the risk of too-big-to fail banks. We should not allow any bank to grow to a size that it poses a systemic risk to the economy. Yet in the aftermath of the crisis, the banking sector has become more concentrated, and the risk posed by too-big-to fail banks has, if anything, increased. We saw in the crisis the risks posed by non-transparent transactions, such as over-the-counter CDS's, and off-balance sheet activities. One of the reasons that the financial system froze was that everyone knew that there was no way that they could know the true financial position of most of the banks. While the Dodd-Frank Bill improved matters, it went nowhere far enough: the problems continue, and as long as they continue, our economy is at risk. The gravity of the situation is illustrated by what has been happening in Europe, where the European Central Bank has warned against the risk to Europe's financial system posed by a Greek default. In principle, the direct exposure of the banks outside of Greece should be limited, well within the capacity of adequately capitalized banks to withstand. But it is clear that the risks can be amplified as a result of the high levels of interconnectivity and through CDS's. The facts of the matter are that no one seems to know with any degree of precision to what extent individual banks on either side of the Atlantic are at risk; and to protect the banks from the excesses of their own risk taking, the ECB had demanded that European taxpayers bear the full costs of any restructuring. The ECB's vehement opposition to what is essential to all capitalist economies—the restructuring of debt of failed or insolvent entities—is evidence of the continuing fragility of the Western banking system. (The appropriate response of the ECB should not have been to oppose the restructuring, but rather to insist on an appropriate banking and financial sector regulatory framework.)

We may never fully protect the economy against the risk of another crisis such as the one that we have been through. But this much should be clear: our economic and financial system is badly distorted. Resources were misallocated before the crisis. No Government has ever wasted resources (outside of war) on the scale that has resulted from the failures of America's financial system. We may have begun the work of making our financial system once again become the servant of the society which it is supposed to serve, but there is a long way to go. Lending, especially to small and medium sized enterprises is constrained. Activities that pose unnecessary risks to our entire economy continue.

We cannot rely on the self-restraint or self-regulation of financial markets. We learned that lesson in the aftermath of the Great Depression, and the decades following World War II, with this strong regulatory system, were among the most prosperous this country has experienced. The question is, will we relearn that lesson in the aftermath of the Great Recession of 2008?

PREPARED STATEMENT OF EDWARD J. KANE, PH.D.

PROFESSOR OF FINANCE, BOSTON COLLEGE

AUGUST 3, 2011

Ours is a representative democracy that espouses the principle that all men and women are equal under the law. This ought to mean that, in difficult times, Government officials responsible for managing the Nation's financial safety net would treat the interests of all citizens more or less equally. But this was demonstrably not the case during the run-up of the housing bubble, nor beginning in 2007 in Government efforts to tame the widespread financial crisis that the bursting bubble brought about. Throughout both periods, the interests of domestic and foreign financial institutions were much better represented than the interests of society as a whole.

Taxpayer interests were poorly represented because, over the years, the financial industry has infiltrated the bureaucratic system that is supposed to regulate its risk-taking and sewed huge loopholes into the capital requirements that then and now are supposed to keep financial instability in check. Unfortunately, the industry's capture of the regulatory system is politically well-defended. This can be demonstrated in two complementary ways: (1) by enumerating the problems that last year's Dodd-Frank Act did not even try to address (such as how to define systemic risk operationally or how to resolve the Fannie and Freddie mess) and (2) by examining the loose ends left in the Act's efforts to deal with regulation-induced innovation and with institutions that have made themselves too large, too complex, and too well-connected politically to be closed and unwound. Living wills, enhanced resolution authority, claw-backs of undeserved executive compensation, and a newly minted Office of Financial Research are all good ideas. But the Keating 5 episode tells us how hard it can be for regulators to discipline politically influential firms. Sadly, the very same criticisms can be levied against the reform efforts unfolding in Basel and in the European Union as well.

What can we do to put reform on a more promising path? Governments must rework bureaucratic incentives to refocus reporting responsibilities for regulators and institutions on the value of safety-net support. Until regulatory duties are embraced explicitly and enforced in operational and accountable ways, it is unreasonable to hope that authorities can or will adequately measure and contain systemic risk during future booms and busts.

A first step would be to strengthen training and recruitment procedures for top regulators. If it were up to me, I would establish the equivalent of a nonmilitary academy for financial regulators and train cadets from around the world. The curriculum would teach cadets how to calculate and aggregate the costs of safety-net support in individual institutions and countries. Among other things, students would be drilled in the duties they owe the citizenry and in how to overcome the political pressures elite institutions exert when and as they become increasingly undercapitalized.

Fed and Treasury Rescue Programs Placed Great Burdens on the Citizenry

GAO data (Government Accountability Office, July 2011) show that, using funds that belong ultimately to ordinary citizens, the Fed bought massive amounts of debt on greatly subsidized terms from important foreign and domestic banking and securities firms between December 2007 and July 2010. Starting in the last quarter of 2008, the Treasury's Troubled Asset Relief Program (TARP) piled additional bailout obligations onto these same citizens.

Evaluating Fed and TARP rescue programs against the convenient standard of doing nothing at all, high officials tell us that both bailout programs were necessary to save us from worldwide depression and made money for the taxpayer. Both claims are false, but in different ways.

A financial crisis may be described as a struggle by financial firms whose asset values have collapsed to offload the bulk of their resulting losses onto creditors, customers, and taxpayers. In the early months of the crisis, Fed and Treasury officials assisted economically insolvent zombie institutions (such as Bear Stearns and AIG) to develop new risks and to transfer losses onto the Government's balance sheet. Authorities did this by mischaracterizing the causes of these institutions' distress as a shortage of market liquidity and helping insolvent firms to expand and rollover their otherwise unattractive debt. Far from assisting zombie institutions to address their insolvency, unwisely targeted and inadequately monitored Government credit support encouraged troubled firms not only to hold, but even to redouble the kinds of gambles that pushed them into insolvency in the first place.

Bailing out firms indiscriminately has hampered, rather than promoted economic recovery. It evoked reckless gambles for resurrection among protected firms and created uncertainty about who would finally bear the extravagant costs of these programs. Both effects disrupted the flow of credit and real investment necessary to trigger and sustain economic recovery.

The claim that the Fed and TARP programs actually "made money" for the taxpayer is half-true. The true part of the proposition is that, thanks to the vastly subsidized terms these programs offered, most institutions were eventually able to repay the obligations they incurred. But the neglected parts of the story are that these rescue programs forced taxpayers to provide under-compensated equity funds to deeply troubled institutions, and that the largest and most influential of these firms were allowed to become even bigger. The Government's deals compare unfavorably with the deal Warren Buffet negotiated in rescuing Goldman-Sachs. His deal carried a running yield of 10 percent and included warrants that gave him a substantial claim on Goldman's future profits. Lifelines provided to an underwater firm are not truly loans; they are unbalanced equity investments whose substantial downside deserves to carry at least a 15 percent to 20 percent return.

Government credit support transferred or "put" to taxpayers the bill for past and interim losses rung up by protected financial firms. Authorities chose this path without weighing the full range of out-of-pocket and implicit costs of their rescue programs against the costs and benefits of alternative programs such as prepackaged bankruptcy or temporary nationalization and without documenting differences in the way each deal would distribute benefits and costs across the populace.

The Crucial Problem is: How to Define and Measure Systemic Risk?

Acting in concert, market and regulatory discipline force a financial firm to carry an equity position that outsiders regard as large enough to support the risks it takes. Taxpayers become involved in capitalizing major firms because creditors regard the conjectural value of the off-balance-sheet capital that Government guarantees supply through the taxpayer put as at least a partial substitute for on-balance-sheet capital supplied by the firm's shareholders.

The nature, frequency and extent of modern financial crises support the hypothesis that changes in risk-taking and concealment technologies available to aggressive financial institutions have repeatedly outstripped social controls on the job performance of the parties that society asks to control the safety and soundness of interlocking financial systems. The root problem is that supervisory conceptions of capital and systemic risk fail to make Government officials accountable for the role they play in generating either variable. Policymakers' knee-jerk support of client firms' creative forms of risk-taking and officials' proclivity for absorbing losses in crisis situations encourage opportunistic firms to foster and exploit incentive conflicts within the supervisory sector and to make sure that tough decisions favor industry interests over those of the taxpayer.

Systemic risk can be likened to a disease that has two symptoms. The Dodd-Frank Act and the Basel III framework seek to use higher capital requirements to treat only the first of these symptoms: the extent to which institutions expose themselves in *directly observable ways* to credit risks that might transmit exposures to default across a chain of leveraged and short-funded financial counterparties. But to be effective, the medicine of capital requirements must be adapted to take fuller account of a firm's particular funding patterns and to treat a second and more-subtle symptom. This second symptom is the ease with which actual or potential zombie institutions can use financial accounting tricks and innovative instruments to hide risk exposures and accumulate losses until their insolvency becomes so immense that they can panic regulators and command life support from them.

It is this second symptom that gives large and politically powerful institutions the ability to shift responsibility for potentially disastrous losses to taxpayers. In good times and in bad, the existence of this "taxpayer put" allows these elite institutions to issue the equivalent of Government debt and makes ordinary citizens uncompensated equity investors in such firms. Offering taxpayer support to zombie firms impedes macroeconomic recovery by making crippled institutions look stronger than they are and turns a blind eye to the ways in which their underlying weakness disposes such firms to seek out long-shot investments instead of fostering flows of healthy business and consumer credit.

My recommendations for regulatory reform are rooted in the straightforward ethical contention that protected institutions and safety-net managers owe fiduciary duties to taxpayers. The existence of a safety net makes taxpayers silent equity partners in major financial firms. As *de facto* investors, taxpayers deserve to be informed at regular intervals about how their side of the taxpayer put is doing. Consistent with U.S. securities laws, Kane (2011) calls for managers of important financial firms to measure and report under penalties for fraud the value of taxpayers' stake in their firm on the same quarterly basis that they report to stockholders and for Government officials to examine, challenge, aggregate, and publicize this information.

My two-piece conception of systemic risk casts it as an option-like equity investment by taxpayers in the firms the safety net protects. The value of taxpayers' position varies inversely both with the risk that an institution might sustain losses that exceed its ownership capital (*i.e.,* the size of a firm's tail risk) and the percentage of this tail risk that the Government may be expected to absorb. If tail risks turn out favorably, the institution reaps most of the gains. But when things go disastrously sour, the management "puts" the losses to taxpayers.

Defining systemic risk as taxpayers' side of an unfavorably structured claim also provides a metric for tracking systemic risk over time. Requiring authorities to calculate and disclose fluctuations in the aggregate value of the taxpayer puts enjoyed by large institutions would make regulatory authorities operationally accountable for the quality of their supervisory performance in booms and recessions alike. Although considerable disagreement exists about the best way to construct a measure of systemic risk, everyone agrees that it arises as a mixture of leverage and the volatility of financial-institution returns. Most existing measurement strategies incorporate the pioneering perspective of Nobel Prize Winner Robert Merton. For example, Carbo, Kane, and Rodriguez (2011) use Merton-type contingent-claim models with a 1-year horizon to undertake cross-country comparisons of the quality of banking supervision before and during the crisis. Hovakimian, Kane, and Laeven (2011) use such a model to evaluate U.S. financial supervision during 1974–2009 and to show that regulators could have used the growing correlation of institution risk exposures as an early warning system for the current crisis. Expanding the format for collecting information from covered institutions to include estimates of the loss exposure (*i.e.,* the "volatility") of their positions over different horizons in individual countries could improve both the precision of systemic-risk estimates and officials' accountability for regulatory and supervisory performance.

Traditional Reporting and Incentive Frameworks are Inadequate

Accounting standards for recognizing emerging losses make evidence of an institution's insolvency dangerously slow to surface. During the housing and securitization bubbles that preceded the 2007–2008 financial meltdown, top managers and top regulators of U.S. and EU financial institutions claim that there was no way they could see the buildup of crisis pressures. Moreover, as the crisis unfolded, these same officials were reluctant to prepare and publicize timely estimates of the financial and distributional costs of bailing out firms that benefited from open-bank assistance.

By engaging in regulation-induced innovation, nurturing clout, and exerting lobbying pressure, a country's systematically important financial institutions (SIFIs) have kept their tail risks from being adequately disciplined. The importance of political, bureaucratic, and career interests in regulatory decisionmaking allows such firms to screen regulatory appointments and to distort regulatory policies *ex ante* and to reshape their enforcement *ex post.*

In a world of derivative transactions, top regulators need special training to understand—and considerable mental toughness to discipline—the incremental taxpayer exposures to risk that innovative instruments and portfolio strategies entail. Efficient safety-net management requires a more sophisticated informational framework than current methods of bank accounting and examination provide. To protect taxpayers and to enhance financial stability, examinations and bank accounting reports should not focus so narrowly on measures of tangible capital. They should also develop and report explicit estimates of the *intangible* value of an institution's claim on taxpayer resources. To keep up with the regulated, regulators must develop adaptive statistical strategies that can extract from an ever-wider array of market data the evolving size of the public risks that they should be sworn to protect. Finally, to hold themselves accountable for carrying out these tasks conscientiously, regulators must accept a system of ethical constraints that requires them to share this information with the public.

Summarizing, regulators need to measure and publicize the implicit and explicit costs taxpayers incur in supporting national and international safety nets. To help them to do this skillfully and conscientiously, we need to change the way they are trained, recruited, and incentivized. I believe that a National or International Academy for Financial Regulators could assist in these tasks.

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PREPARED STATEMENT OF EUGENE A. LUDWIG

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AUGUST 3, 2011

I would like to commend Chairman Brown, the Ranking Committee Member, Senator Corker, and the other Members of this Committee for holding this hearing on Debt Financing in the Domestic Financial Sector. Chairman Brown and Ranking Member Corker, you and the rest of the Committee Members can take pride in having worked hard to address the challenges posed by the financial crisis. You have brought important Congressional focus to the issues of financial stability, safety and soundness, and regulatory framework of financial institutions. You have passed landmark legislation in this area and continue to engage in serious oversight.

One of the greatest challenges facing not just the financial and regulatory communities but our economy as a whole is the successful implementation of the very powerful post-crisis reforms enacted by the Congress and the international reforms currently being proposed by the Basel Committee on Banking Supervision and the Financial Stability Board. Properly implemented in a balanced and thoughtful way these reforms should enhance financial stability in the United States.

If this balance is lost however, the potential exists—particularly given the potentially great cumulative impact of these rules—that the financial system will be actually less stable and less able to fulfill its key function in supporting the economy of the United States, putting a deleterious drag on capital formation and meaningful job opportunities for our people.

We must never lose sight of the fact that the financial crisis has taken a tremendous toll on our country. Millions of Americans are reeling from the loss of their jobs, their homes, and their life savings. We need the banking system to serve them again and to fulfill its critical role of supporting economic growth. Therefore, we must ensure that the hundreds of rules required by the Dodd-Frank Act are implemented with great care and in a coordinated fashion. The sum total of these reforms must contribute to the country's economic recovery and future stability.

In implementing the Dodd-Frank Act, it is important to emphasize that the Act is sufficiently comprehensive that each rulemaking should be evaluated with the recognition that the cumulative impact of the entirety of the Dodd-Frank Act reforms will have an immense, and not entirely predictable, impact. It is critical to take a thoughtful approach to the implementation of all of these reforms—domestic and international—with an eye toward maintaining the balance of the financial system and allowing the economy to recover and provide Americans with much needed jobs and opportunity.

The modern financial system is a complex mechanism that can be a potent force for development and opportunity. It is hard to imagine how a developed economy can thrive without a robust financial system. But, as we have seen, modern finance—like every other human endeavor—has flaws. Both the Dodd-Frank Act and the rules proposed by the Basel Committee and the Financial Stability Board seek to rectify those flaws and provide the medicine needed for a stronger and safer financial system that can support the critical growth ultimately needed for America's recovery. This is truly an omnibus effort; the kind of change that occurs rarely more than once in a generation. However, like any strong medicine, if applied incorrectly or excessively, the Dodd-Frank Act, and the Basel Committee and Financial Stability Board reforms can produce more harm than good.

I have been a regulator, banker, and bank adviser for over 30 years. In these roles, I have developed, implemented, and evaluated complex financial system rules and controls. There are tremendous practical challenges in creating and maintaining control systems that function at a level that modern finance demands and that Congress, the regulatory community, and the public have a right to expect. Targeting resources to create controls that matter and refraining from imposing excess or overkill in reforms are key to successful implementation. Therefore, in this regard, I like to say that more is not better, better is better.

Capital Increases

The capital rules are a good case in point. Through the work of the Basel Committee, the Financial Stability Board, Congress, and U.S. regulators, we now have very tough capital requirements and capital levels that significantly exceed previous requirements.

The major source of higher minimum capital requirements is the work of the Basel Committee, in which the U.S. banking regulators play a lead role. Under current Basel capital rules, banks have to hold 8 percent total capital and 4 percent Tier 1 capital—only half of which must be common equity. Under Basel III, which was issued in December 2010 and will be implemented beginning in 2013, banks will have to hold 10.5 percent total capital and 7 percent common equity. On top of that, U.S. regulators may add on an additional "countercyclical capital buffer" of up to two and a half percent, which, as currently contemplated, must be composed of common equity. Furthermore, most financial institutions, out of concern that there will be adverse consequences if they breach—even for a short period of time—any of their regulatory minimum ratios, typically carry their own buffers in excess of those required.

It is hard to quantify just how much additional capital is being added to the requirements, both because of these complex definitional elements and the fact that U.S. implementation of Basel III and capital standards required by Title 1 of the

Dodd-Frank Act has not yet taken place. However, it is notable that under Basel III, banks have to hold a minimum of 7 percent common equity, as opposed to a minimum of 2 percent common equity under Basel II (because half of the 4 percent Tier 1 minimum could be held as noncumulative preferred stock and certain hybrid instruments). This is over a threefold increase in required common equity, before even factoring in additional buffers and revised risk weights described below.

This is an important change, because common equity is the highest quality of capital in terms of loss-absorbing ability, albeit also the most expensive for banks to raise. Furthermore, prior to the crisis several of our largest non-bank institutions, notably investment banks, were subject to a much less rigorous capital regime. Now, given changes occasioned by the financial crisis, as well as the ability of the Financial Stability Oversight Council (FSOC) to designate non-bank financial institutions as "systemically important", a number of institutions will see even more marked increases in the capital they are required to hold.

It should also be noted that after the financial crisis the Basel Committee revised certain risk weights on assets that had been instrumental in the financial disruption. For example, re-securitizations and trading assets now will have substantially higher risk weights beginning in 2012. The Basel Committee estimates that banks will hold four times the amount of capital on trading activities than under the current framework.

Finally, under a recent Basel Committee proposal, large complex banking companies—so-called global SIFIs—will have to hold yet another capital buffer of one to two and a half percent.

The Importance of Balance

At the end of the day, capital is an important tool in the supervisory toolbox, but it is only one tool; therefore, I would not, at this time, advise any further increases in capital requirements beyond the tough new Basel rules. The Dodd-Frank Act provides capital requirements as a regulatory mechanism with other powerful tools to enhance safety and soundness of the financial system. While focusing on capital is appropriate, to do so to the exclusion of other important mechanisms for ensuring bank safety and soundness is risky. We take the chance of capital's becoming the Maginot Line of financial institution safety and soundness. Capital is a necessary condition for good safety and soundness, but it is not sufficient in and of itself.

In this regard, it is worth noting that bank failures in the recent crisis were typically not the result of banks running out of capital, but rather the result of liquidity weaknesses. The Dodd-Frank Act requires heightened liquidity standards for bank holding companies of $50 billion or more in assets. The Basel Committee is in the final stages of issuing stringent new liquidity rules. Furthermore, the Dodd-Frank Act provides regulators with an armory filled with other supervisory tools. Some of these tools are new, like the work of the Office of Financial Research (OFR), and resolution plans. Other tools are not new, but they are greatly enhanced, like stress testing and an increased emphasis on governance and risk management.

Taken as a whole, these tools, along with the significant powers already held by bank regulators, should be, at this point, adequate to greatly enhance financial stability. Taken to the extreme, any one or a group of these tools can prove harmful.

In this regard, it is important to recognize that the CAMELS supervisory rating system is one of the valuable ways to rate a banking organization's safety and soundness. The "E" in CAMELS stands for earnings. The E is there because regulators know that it is not possible for a banking organization to be truly safe if it does not earn steady and safe returns on a risk adjusted basis. Solid earnings allow banking organizations to make loans to firms that want to expand, develop new products and equipment, and take sensible risks so they can grow, providing jobs and prosperity. But, make no mistake; lending money to even the most sound businesses borrowers is a risky business even with the best borrowers, best collateral, and best ideas.

Without solid earnings, a banking organization cannot as easily attract capital, nor can it accumulate as much capital through retained earnings. In this regard, it is also worth emphasizing that nothing flows to the bottom line faster than expense, which quickly accumulates with increased capital and controls. While it is essential to have strong capital and strong controls, policymakers and regulators must remember that banks simply have to be able to bear the expense of the capital and controls that are needed. Excess capital and controls risk needlessly weighing down a banking organization.

Some would say that we can solve all the weaknesses in the financial system by adding capital, capital, and more capital. My view is different. Yes, capital is needed, and much capital is being added. But we need to be careful about excess. What is critically important to safety and soundness is balance, balance, and balance.

So how do you achieve the right balance? How do we ensure that our regulators and regulations are both serious and meaningful, but not so elaborate that they weigh down banks to the point of dysfunction? Unfortunately, there is no quick fix, but I can provide some suggestions.

A well functioning set of regulations and a sound regulatory mechanism starts with what you are doing at this hearing today: constant and thoughtful Congressional oversight. The next step is ensuring that our regulators continue to be top professionals who are devoted to a safe and sound banking system, one that supports prudent innovation and economic growth. Third, both from the standpoint of Congressional oversight and as a former regulator, we must avoid waste and excess in implementing our rules and procedures. Fourth, I would insist that our regulators periodically review their rules to insure that they are both effective and cause the least burden possible.

For example, our current system of multiple regulators is an area where the burden can be lessened. I have long advocated for one prudential safety and soundness regulator, not several. However, since that is the system under which U.S. banking institutions currently operate, we must encourage our fine regulatory agencies to divide the work in order to minimize duplication or triplication.

Finally, I want to note two other points that bear on sound implementation of the Dodd-Frank Act and international rules. First, it is essential that in implementing international capital and liquidity rules for global banks, we insist on a level playing field. Setting a requirement for the amount of risk-based capital we want banks to have globally will not be effective without uniform implementation. How we define the numerator—the capital itself, and the denominator—risk weighted assets, is critical. Equally important, we have to ensure that standards are applied fairly around the globe if we are to have global standards that do not simply put U.S. financial firms at a disadvantage.

This is not an easy issue. Today's Basel capital rules allow banks around the world to calculate, within certain parameters and approaches, the risk weights that apply to their portfolio of assets. While supervisors have a key role in overseeing and approving the models that the banks use for this purpose, there is an emerging view that some banks' models may be less rigorous than others.

From my experience as a former supervisor and banker, I can assure you that the U.S. supervisors have taken this task quite seriously and, accordingly, U.S. banks' models are quite rigorous. In fact, one of the primary reasons that U.S. banks are still in the transition stages of implementing Basel II is because of the high standards to which U.S. supervisors hold them. If some non-U.S. banks are allowed to use inadequate modeling to determine their capital risk weights, then U.S. banks may be at a significant competitive disadvantage. Moreover, the international banking system is only as strong as its weakest link. The Basel Committee is beginning to tackle this issue, which is a critical task before the higher Basel III and G–SIB (Global Systemically Important Bank) capital requirements become effective. Congress and U.S. regulators should be watchful here too.

Nonbanks

Another area where more work needs to be done is outside of the banking system. Less-regulated non-bank financial players own one-quarter of U.S. financial sector assets. When our capital markets recover and many of the Dodd-Frank Act restrictions become effective, non-bank players are likely to become an even greater force. These entities—the so-called shadow banking system—can put on 20:1; 30:1 or even 50:1 leverage—effectively capital requirements as low as 2 percent. As long as this severe imbalance continues, it is a serious threat to the financial system. The FSOC has the authority to level this playing field in a variety of ways, including designating activities and non-bank institutions that present systemic risks to the financial system.

Here again, balance is key. We do want innovative, particularly smaller players to have room to grow; we do want to encourage free markets. However, where anomalies become large either in terms of size or imbalance, the better players are pushed further out on the risk curve than is desirable and the weaker players become ever more likely to fail and cause disruption.

Macroprudential Supervision

One area where implementation of the Dodd-Frank Act is particularly important is with respect to the OFR, which was created to monitor, on behalf of the FSOC, present and emerging systemic risks in the financial system. OFR is one of the most important positive and creative developments resulting from the Dodd-Frank Act. Functioning correctly, the OFR should give regulators, the financial system and

Congress better headlights as to where the financial system is headed and any potholes along the road.

However, for the OFR to function effectively, it must have a Congressionally confirmed director and sufficient staff so it can conduct systemic risk analysis and present independent views to both the FSOC and to Congress.

Further, and enormously important, the OFR should work hard not to create undue additional burdens for the financial system. It needs to faithfully execute its mandate to use existing data wherever possible, coordinate its data gathering activities, and standardize data collection so the same information is not reported multiple times in multiple formats.

Conclusion

Finally, I would like to say a word about the banking system and getting our economy moving again. While the fundamental problem with credit right now is a sluggish overall economy, at the margin, the elements exist today for a credit crunch much like the time I entered office in 1993. In 1993, supervisors and bankers were recovering from a period of boom and bust. The supervisory pendulum had swung to excess caution in some areas of the country.

Today, the combination of a plethora of new rules to implement in addition to supervisory caution—of course a natural reaction to a difficult period—threatens to dampen economic growth. It is essential for all parties to work toward balance. Regulation and supervision can be both effective and tough, but balanced, allowing for safe lending and capital formation. We must all continue to work to strike this balance.

PREPARED STATEMENT OF PAUL PFLEIDERER, PH.D.

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AUGUST 3, 2011

Government policy should not encourage firms to take actions that have large social costs and create little or no social benefit. This simple proposition is supported by both common sense and elementary economic reasoning. For a transparent case, consider a firm that wants to locate a uranium processing plant in the center of a densely populated residential area. Zoning laws and other regulations will prevent the firm from doing this and for good reason: there is no social benefit to locating a plant handling radioactive materials in a densely populated area, and there are significant social costs, including health risks and declining property values. It would be pure folly for the Government to give this company a tax break only if it locates its uranium processing plant in a very populated area. It would be even greater folly for the Government to provide this tax break and in addition agree to pay any health claims brought against the firm, but only if plant is located in a residential area.

Government Policy Perversely Distorts Banks' Funding and Creates Unnecessary Risk

While we don't have policies that perversely affect the location of uranium processing plants, we do have policies that perversely distort the funding choices made by banks and other financial institutions. These policies make it cheap for banks to fund themselves with debt and expensive to fund with equity.

First, our tax system favors debt financing over equity financing. This is because interest payments are treated as a deductable expense in the computation of corporate tax, but payments to shareholders are not treated in this way. Debt provides a "tax shield" and, holding everything else equal, a company that uses more debt financing has a lower tax bill than a company funded with less debt.

Second, as is well known, banks, especially "too-big-to-fail" banks, benefit from implicit guarantees that the Government provides for the banks' debt. By lowering the risk of holding debt, these implicit guarantees lower the interest rate banks must pay to their creditors and constitute a significant subsidy to the banks based on their using debt rather than equity. It is difficult to measure precisely the magnitude of this subsidy, but there are many reasons to believe that it is quite large. First, rating agencies explicitly account for the Government support by giving two

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[1] What follows is largely based on a paper that I co-authored with Anat Admati, Peter DeMarzo and Martin Hellwig entitled "Fallacies, Irrelevant Facts, and Myths in the Discussion of Capital Regulation: Why Bank Equity is Not Expensive." That paper and related materials can be found at: *www.gsb.stanford.edu/news/research/Admati.etal.html.*

ratings for banks: a standalone rating and a support rating. The latter accounts for the implicit Government guarantee, and the difference between the two ratings gives some indication of the importance of Government support. Moody's recently gave five notches of "uplift" to Bank of America due to Government support, four notches to Citibank, and three to Wells Fargo. In the case of Bank of America, this means that Government support lifts the bank's credit rating on senior debt from Baa2 to Aa3, changing the category for its bonds from "minimum investment grade" to "very high quality." A study [2] conducted after the crisis looked at the differences between funding costs of smaller and larger banks and used these differences to estimate that the value of the "too-big-to-fail" subsidy for the 18 largest U.S. banks. The estimates put the aggregate value of the Government subsidy between $6 billion and $34 billion per year, which accounts for somewhere between 9 percent and 48 percent of bank profits. Using a completely different approach, three researchers in a recent paper [3] examined the pricing of put options on financial firms and used these market prices to infer the market's assessment of the value of the subsidy to bank shareholders. They find that the subsidy substantially reduces the cost of capital for systemically important banks, and in their calibration the bailout guarantee accounts for at least half of the market value of the banks' stock. In addition to the "too-big-to-fail" subsidies that the Government delivers through implicit guarantees and bailouts, bank funding can also be subsidized by the Government through explicit guarantees such as deposit insurance. Banks pay premiums to the FDIC for this insurance, but if these premiums are too low, the insurance is underpriced and the banks benefit.

Both the tax system and the Government safety net subsidize the banks' use of debt. These subsidies make debt cheap relative to equity. The distortions this creates are not innocuous. Encouraging banks to fund themselves almost exclusively with debt makes them much more fragile than they need to be. If this just affected a few small banks in isolation, it would not be a significant problem. Unfortunately it affects the whole banking sector and particularly the "too-big-to-fail" banks. When highly interconnected banks and other financial institutions are funded with small slivers of equity, there is little margin for error and modest shocks to asset values can put the entire system on the verge of insolvency. Slightly larger shocks make the system insolvent. As was demonstrated in 2008, when a highly leveraged financial system becomes distressed, the results can spill over into the rest of the economy with devastating consequences. A mere 3 years after the crisis we are seeing in Europe further evidence of the vulnerability of economies to a fragile, highly leveraged banking system. There are clearly huge social costs to having thinly capitalized banks. This might be tolerated if there were offsetting social benefits. There are not.

We are told that "capital is expensive" for banks and if we raise equity capital requirements by even modest amounts, awful things will happen. These claims and dire warnings are based on a number of fallacies and confusions.

Banks Do Not "Hold" Capital and Capital is *Not* Idle Funds

One pervasive confusion stems from the completely misleading notion that banks "hold" capital. This terminology gives rise to fundamental misunderstandings of what capital is and the role it plays. To explain the importance of capital and why banks do not "hold" capital requires that we look at a bank's balance sheet. Figure 1 presents a simplified version of a bank balance sheet.

Figure 1

Assets (left-hand side)		Liabilities and Shareholder Equity (right-hand side)	
Cash	100	Deposits	1,100
Trading assets	400	Non-deposit debt	800
Loans	1,500	Shareholder equity	100
Total	2,000	Total	2,000

[2] See Dean Baker and Travis McArthur, "The Value of the 'Too Big to Fail' Big Bank Subsidy," CEPR Issue Brief, September, 2009.

[3] See Bryan T. Kelly, Hanno Lustig and Stijn Van Nieuwerburg, "Too-Systematic-To-Fail: What Option Markets Imply about Sector-Wide Government Guarantees," NBER Working Paper Series, June, 2011.

On the left-hand side of the balance sheet are the bank's assets. Among these assets are its cash reserves, its trading account assets and the loans the bank has made. On the right-hand side of the balance sheet are the liabilities the bank has incurred in raising funds. These liabilities include deposits and various forms of debt the bank has issued. Also on the right-hand side is shareholders' equity.

Capital is basically shareholders' equity. This means that the amount of capital a bank has is determined by how the right-hand side of the balance sheet is constructed. In Figure 1 the value of the bank's equity capital is 5 percent of the total asset value, *i.e.,* 100/2,000 = 5 percent. It should be noted that before the crisis many major banks had capital that was as little as 2 percent or 3 percent of asset value.[4]

The right-hand side of the balance sheet can be understood in terms of the promises the bank has made to the providers of the bank's funding. When a bank funds with debt, it makes an explicit, contractual promise to pay the creditors specified amounts. When a bank funds with equity, it makes no explicit promise to pay a given amount; the shareholders providing the equity funding are simply entitled to what is left (if anything) after the creditors (depositors and bond holders) have been paid.

Financial crises and the need for Government bailouts occur when banks suffer losses on their assets and become insolvent or close to insolvent. Insolvency quite simply means that the bank is unable to meet the contractually specified promises it has made to its creditors because its assets are worth less than its liabilities. Imagine the bank whose balance sheet is given in Figure 1 suffers a loss of 25 on its trading assets and a loss of 125 on its loan portfolio. Its balance sheet becomes:

Figure 2

Assets (left-hand side)		**Liabilities and Shareholder Equity** (right-hand side)	
Cash	100	Deposits	1,100
Trading assets	375	Non-deposit debt	800
Loans	1,375	Shareholder equity	-50
Total	1,850	Total	1,850

The bank is now "underwater," and this is reflected in the fact that shareholders' equity is negative. Bank shareholders, like all shareholders, have limited liability. This means that they cannot be forced to kick in the 50 required to make up the shortfall between the value of the bank's assets and the contractual promises made to the depositors and other debt holders. If this were a non-financial company rather than a "too-big-to-fail" bank, bankruptcy would occur, the shareholders would be "wiped out," and creditors would be forced to take some losses. In the case of a systemically important, "too-big-to-fail" bank, the Government will be under tremendous pressure to keep a bank from failing and will provide support to keep the bank afloat. The result will be something like what is depicted in Figure 3:

Figure 3

Assets (left-hand side)		**Liabilities and Shareholder Equity** (right-hand side)	
Cash	100	Deposits	1,100
Trading assets	375	Non-deposit debt	800
Loans	1,375	**Government claim**	**20**
Government support	**75**	Shareholder equity	5
Total	1,925	Total	1,925

[4] Throughout this discussion the capital ratio will be taken to mean the ratio of equity to total assets. In practice bank capital is measured in a number of different ways. Reported measures are generally based on "book" values of assets, which can be quite different from actual market values. In addition, reported capital ratios are often calculated in terms of "risk-weighted" assets. Since many types of assets receive risk-weights less than 100 percent, this and the use of book values can make capital ratios look high even when a bank is very thinly capitalized.

By various means the Government can "inject money" into the bank. For example, it can buy bank assets at inflated prices, provide additional guarantees that increase the value of some of the bank's assets, or provide funding at below market rates. However value is injected, the only way that the Government can truly make an insolvent bank solvent is to increase the value of the bank's assets on the left-hand side of the balance sheet by more than the value of any claims (*e.g.,* preferred shares) it gets from the bank on the right-hand side. In the example shown in Figure 3, the Government increases the value of the bank's assets by 75 and only takes a claim worth 20. The difference is 55. Of this 55, 50 goes to filling in the amount the bank was underwater (the shortfall between the bank's assets and its liabilities) and the remaining 5 is a benefit to the shareholders.

Now let's start the story again, except in this case we will assume that the bank is much better capitalized. Instead of having only 5 percent equity capital to total assets, the bank has a much more prudent ratio of 15 percent equity to total assets. This is shown in Figure 4.

Figure 4

5% Capital

Assets (left-hand side)		**Liabilities and Shareholder Equity** (right-hand side)	
Cash	100	Deposits	1,100
Trading assets	400	Non-deposit debt	800
Loans	1,500	Shareholder equity	100
Total	2,000	Total	2,000

15% Capital

Assets (left-hand side)		**Liabilities and Shareholder Equity** (right-hand side)	
Cash	100	Deposits	1,100
Trading assets	400	Non-deposit debt	600
Loans	1,500	Shareholder equity	300
Total	2,000	Total	2,000

On the left we have the balance sheet of the original, poorly capitalized bank. On the right we have our much better capitalized bank. First note that the two banks are holding exactly the same assets. The better capitalized bank is not being forced to "hold" something that its poorly capitalized twin is not holding. Claims such as the one made by Steve Bartlett (Financial Services Roundtable, September 17, 2010) that "every dollar of capital is one less dollar working in the economy" are simply false. *Our better-capitalized bank has the same assets and the same number of dollars working in the economy as the poorly capitalized bank.*

The difference between the balance sheets in Figure 4 relates to the contractual promises the two banks have made. The better-capitalized bank has only taken on 600 in non-deposit debt, not 800, and has funded itself with more equity. This means that it has much more equity to absorb losses. Assume now that both banks suffer the losses discussed above: a loss of 25 in trading assets and a loss of 125 in the value the loan portfolio. Figure 5 shows the balance sheets after the losses:

Figure 5

5% Initial Capital

Assets (left-hand side)		**Liabilities and Shareholder Equity** (right-hand side)	
Cash	100	Deposits	1,100
Trading assets	375	Non-deposit debt	800
Loans	1,375	**Government claim**	**20**
Government support	**75**	Shareholder equity	5
Total	1,925	Total	1,925

15% Initial Capital

Assets (left-hand side)		**Liabilities and Shareholder Equity** (right-hand side)	
Cash	100	Deposits	1,100
Trading assets	375	Non-deposit debt	600
Loans	1,375	Shareholder equity	150
Total	1,850	Total	1,850

With 15 percent initial capital our prudent bank remains strongly solvent after the loss in asset value that completely crippled the bank with only 5 percent initial capital. Unlike the poorly capitalized bank, the better-capitalized bank requires no Government bailout. In fact, even after the drop in asset value, our better-capitalized bank's capital ratio is 8.1 percent (150/1850 = 8.1 percent), higher than the initial capital ratio of the poorly capitalized bank. The better-capitalized bank can sustain even further losses without requiring Government support.

Because of the possibility of Government support, shareholders will prefer that their bank be thinly capitalized. In other words, they will prefer the left-hand sides of Figures 4 and 5, not the right-hand sides. To see why, we must keep track of the money. Assume we start with the bank being well capitalized as shown on the right-hand side of Figure 4. The shareholders can either leave their bank well-capitalized at 15 percent, or they can have the bank borrow 200 and pay out the 200 in proceeds as a dividend to the shareholders. If they do the latter, they convert their well-capitalized bank into the bank with 5 percent capital shown on the left-hand side of figure 4. We can now compare their positions after the bank loses 25 on trading assets and 125 on its loan portfolio.

- If they had converted their bank into a thinly capitalized bank, they would have the 200 they received as a dividend plus the 5 in shareholder equity shown on the left-hand side of Figure 5.
- If they had left their bank well capitalized, they would end up with 150 in shareholder equity, as shown on the right-hand side of Figure 5.

In other words, they end up with 205 with the thinly capitalized bank and only 150 with the better capitalized bank. The difference of 55 is exactly what the Government puts into the bank to bail it out.

Something very important is evident in Figures 4 and 5: losses are *socialized* on the left-hand sides and losses are *privatized* on the right-hand sides. As well as imposing unwarranted costs on the taxpayers, socializing losses creates all kinds of incentive problems. For example, socializing losses creates incentives for inefficient and excessive risk taking, since the shareholders get the benefits of the "upside" and the Government and taxpayers bear the costs of the "downside."

Figure 5, however, doesn't reveal all the advantages of higher equity capital. The left-hand side of Figure 5 may lead to a financial crisis and collateral damage to the rest of the economy. This is much less likely on the right-hand side. The benefits of having more equity in preventing a crisis are widely recognized. For example, Alan Greenspan wrote in 2010:[5]

> Had the share of financial assets funded by equity been significantly higher in September 2008, it seems unlikely that the deflation of asset prices would have fostered a default contagion much, if any, beyond that of the dotcom boom.

One Must Not Confuse Private With Social Costs

Requiring banks to have much more prudent levels of equity capital clearly produces many benefits, but bankers insist that "equity is expensive" and must be used sparingly. These claims are also based on confusions and fallacies. Perhaps most egregious among them is the confusion between private and social costs.

Consider again the uranium processing plant example discussed above. Assume that the Government has a perverse policy on plant location: the firm will receive tax breaks and free Government insurance against health risks *only if* the plant is located in a crowded residential area. The firm's managers can legitimately say that it would be costly for them to locate the processing plant far away from a crowded residential area. It would be costly *for them* because they would be giving up both the favorable tax treatment and the freely provided Government insurance that is protecting them against health claims. But giving these subsidies up is a *private* cost to the firm, not a social cost. The tax benefits and insurance all come at the expense of the general taxpayer. What the firm loses in giving these up, the general public gains. Of course the general public gains much more because it is much safer to have the plant located away from a crowded area.

The situation is precisely the same for banks. If banks are required to fund themselves with more equity, they will give up tax benefits (the debt tax shield) and freely provided or underpriced Government guarantees (particularly for banks that are considered "too-big-to-fail"). Giving up these subsidies is a *private* cost to the banks, not a social cost. And just like moving the uranium processing plant away from a crowded residential area produces a huge social benefit, so does moving the banks away from imprudent levels of equity capital with all the risks this brings to the economy.

It is clear that our system subsidizes banks by making debt cheap. It might be argued that these subsidies are good if the banks pass them on to borrowers in the form of lower lending rates. If we remove the subsidies that make it cheap for the banks to fund with debt, won't the banks increase the rate they charge to borrowers and won't this hurt the economy? Let us pose the exact analogue of this question in the context of the uranium processing plant: Won't forcing the uranium processing firm to locate its processing plant far away from a crowded residential area reduce the subsidy the firm gets, and won't this force the firm to charge more for processed uranium? Whether or not it makes sense for the Government and its tax-

[5] See Alan Greenspan, "The Crisis," *Brookings Papers,* April 15, 2010.

payers to subsidize uranium processing, *it certainly does not make sense for a subsidy to be given in a way that requires the processing firm to locate its dangerous plant in a crowded residential area.* Now consider banks. Whether or not it makes sense for the Government to subsidize banks' lending, *it certainly does not make sense for a subsidy to be given in a way that requires banks to fund themselves in a fragile way that is dangerous to the rest of the economy.* Arguments that bank capital requirements should not be significantly increased because this would remove a subsidy that the banks use to keep lending costs low are completely unfounded. If bank lending needs to be subsidized, this should be done in a direct way that does not put the economy at risk.

Arguments Based on a Fixed Required Return on Equity (ROE) are Flawed

Another source of confusion and fallacious reasoning about equity capital requirements for banks is associated with the notion of a fixed, required rate of return on equity for banks. It is well established that investors are risk averse and they must be compensated for the risk they bear. Prices are set in markets so that securities that add more risk to investors' portfolios have higher expected returns than those that add less risk. There is absolutely no reason to think that investors ignore risk when investing in banks' equity.

The risk that a bank's shareholders bear depends on how that bank funds itself. Consider two banks of equal size. Assume that the first bank is funded with $40 billion in equity and $960 billion in debt, while the second is funded with $100 billion in equity and only $900 billion in debt. Now consider what happens if each bank suffers a loss of $8 billion. For the first bank this $8 billion loss is spread across a small equity base and results in a 20 percent loss for the shareholders (–8/40 = –20 percent). For the second bank the $8 billion loss is spread across a bigger equity base and results in only an 8 percent loss (–8/100 = –8 percent). By concentrating its losses on a smaller equity base, the first bank makes its equity returns much riskier than the second bank's equity returns. Because of this the first bank's shareholders will have a higher required rate of return on their equity to compensate for this risk.

The claim is often made that bank shareholders have a required return that is fixed and will not change when the bank funds itself with more equity and less debt, even though this reduces the riskiness of equity returns. This notion of a rigid required rate is used to argue that increasing equity requirements will increase banks' funding costs. The implicit assumption behind this claim appears to be that bank investors fail to account for the risk they are bearing or are somehow fooled. If this is true, we must seriously question the ability of markets to properly allocate capital in the financial sector. In fact, there is no reason to come to any drastic conclusions. A required return on (or cost of) equity that is independent of the risk of a bank's equity makes no sense and violates all we know about security markets. Arguments based on this reasoning are deeply flawed.

It should also be noted that return on equity (ROE) is often used as a performance measure and the compensation of many bank managers appears to be tied to ROE. This creates perverse incentives for funding banks with minimal amounts of equity. Consider two bank managers whose banks have similar assets. Manager A's bank is more prudently funded with 10 percent equity, while Manager B's bank has only 3 percent equity. In addition to having a safer bank, assume that Manager A has managed his bank's assets very well, earning a return on assets (ROA) of 3 percent, while Manager B has managed his assets quite poorly, earning a return on assets of only 2.5 percent. As the table below shows, Manager B posts a much higher ROE despite the fact that Manager A is the better manager.

	Realized Return on Assets (ROA) (Before Interest Payments)	Interest Rate on Debt	% Equity Funding	Realized Return on Equity (ROE)
Manager A	3.00%	2.00%	10.00%	12.00%
Manager B	2.50%	2.00%	3.00%	18.67%

Manager B's ROE exceeds Manager A's ROE only because Manager B's bank is more highly leveraged and more fragile. If Manager A is compensated on the basis of ROE, he has incentives to reduce his equity funding and the safety of his bank.

Requiring Banks to Fund with More Equity is Not Socially Costly

Many policy decisions are quite challenging since they involve difficult tradeoffs between social costs and benefits. For an example, consider levees that are built for flood protection. Should a levee be built for the once-in-a-100-year flood or the once-in-500-year flood? Building a safer levee produces clear social benefits, but it also entails social costs, since the construction of a safer levee requires the use of more resources (*e.g.,* more labor) that could have been used elsewhere for other purposes. Fortunately we do not face this sort of difficult tradeoff when thinking about bank capital requirements. This is because requiring banks to fund with more equity does not use up any social resources that could have been used for other purposes. It only entails that banks change the nature of the contractual promises that they make to those providing their funding. Some securities that would have been sold by a bank with the label "debt" must now be sold with the label "common share." In fact, banks can over relatively short periods of time increase their equity capital significantly by not making dividend or other payments to shareholders, but instead using the cash that they would have paid out to shareholders to pay off their debt and reduce their overall leverage. Of course we know that banks will not do this voluntarily since it will reduce the subsidies that they get from the Government. In addition, managers may be concerned because this will mechanically reduce the return on equity (ROE) even as it makes their banks safer and less of a danger to the economy. The reduction in bank subsidies and the reduced return on equity due to lower risk and lost subsidies are *private* costs to the managers and shareholders of the bank (when considering only their holdings in the banks, not necessarily their entire portfolio or economic welfare), but they are *not social costs.*

Requiring banks to fund more with significantly more equity will make our financial system safer and substantially reduce the risk of another financial crisis that imperils the rest of the economy. Of course, a significant increase in required equity funding is not a panacea that solves all problems and removes the need for any other types of regulation or supervision. However, contrary to the flawed arguments against it, requiring significantly more bank equity produces significant social benefits at little or no social cost.

Note that it does not follow from this that banks should be funded with 100 percent equity. A nontrivial portion of bank liabilities, *e.g.,* deposits, is socially valuable. But much of the debt that banks have used in funding is used simply because incentives (tax and guarantee subsidies, compensation based on ROE measures) make it privately, but not socially, desirable.

Level Playing Fields and Playing in the Shadows

It is often argued that our overriding concern must be that playing fields are level. The claim is that if other jurisdictions permit their banks to be thinly capitalized, we also must permit our banks to be thinly capitalized. Otherwise our banks will be unable to compete. It is important to understand what is really being said by those making this argument. They are really contending that if other countries provide too-big-to-fail and other types of subsidies (at taxpayer expense) to their banks and these subsidies encourage their banks to be highly leveraged and fragile, posing a threat to their economies, we must provide similar subsidies to our banks (at taxpayer expense), so that our banks are fragile and highly leveraged and pose a danger to our economy. This makes no sense. In broad terms banks can generate profits in three ways:

- They can make and monitor loans to households and commercial enterprises.
- They can facilitate payments, transactions and the issuance and trading of various securities.
- They can exploit their ability to borrow at Government subsidized rates, becoming highly leveraged, thinly capitalized and systemically risky in the process.

True social value is potentially created by the first two activities, but not by the third, even though the third can be a great source of bank profits. Taking away the third activity is not socially costly and actually produces significant social benefits. As mentioned above, if either of the first two activities requires a Government subsidy, that subsidy should *not* be provided through the third activity. Arguing that other jurisdictions permit their banks to earn great profits through the third activity is not an argument for saying this should be permitted in our country.

It is also often claimed that if higher capital and other regulatory requirements are imposed, banks and other entities will just find a way to do "risky stuff" in the shadows (*e.g.,* the unregulated shadow banking sector). This claim sounds a bit like the unruly teenager who argues that if his parents don't permit him to take illegal drugs in their house, he will simply do it at his friend's house. It is clearly a challenge for regulators to monitor risk and make sure that it is not being hidden in ways that ultimately burden the taxpayer and put the economy at risk. But this is not an insurmountable challenge. It should, for example, be noted that before the crisis much of the shadow banking system relied on support from regulated entities. This meant that regulators had the potential to control it.

We Need the Government to be Less Involved

Because of too-big-to-fail guarantees and other subsidies our Government is enmeshed in the financial system. As a consequence prices and decisions are distorted and private markets are not working as they should. Figure 5 shows the difference between the system that we have now (the left side of the figure) in which losses are socialized and the system we should have (the right side) in which losses are privatized. Some may contend that the imposition of higher capital requirements is a case of the Government interfering with private markets. This is completely wrong. Higher capital requirements that lead to prudent bank funding actually take the Government out of the system and put the responsibility for bearing risk on the private markets, *not the taxpayer*. In addition they produce a huge social benefit by making the risk of another devastating financial crisis much lower.

RESPONSE TO WRITTEN QUESTION OF SENATOR SHELBY FROM JOSEPH E. STIGLITZ

Q.1. Did Dodd-Frank end too-big-to-fail?

A.1. Dodd-Frank did not end the risk of too-big-to-fail. Indeed, in the aftermath of the crisis, the banking sector is more concentrated and the problem of too-big-to-fail has, in that sense, become worse. These large banks are too big to fail—and allowing them to fail would potentially cause large disruption to the market.

Some argue that "resolution authority" will prevent the kind of massive bail-out that occurred in 2008–2009. I am unconvinced. The Government had powers at its disposal even then that would have reduced the magnitude of the risk to which taxpayers were exposed. They could have used standard procedures of conservatorship. The Fed and Treasury were evidently afraid to do so. In the midst of another crisis, they are likely to use emergency powers to engineer a bail-out. In the alternative, they may (as in the case of Lehman Brothers) not do enough to ensure an orderly process, in which the institution is saved by bondholders and shareholders bear most of the costs. The result could be massive disruption.

There are some who believe that there is no way that a truly effective "living will" could be established for these mega-institutions, and rigid enforcement of living will requirements would force the break up of these banks. I am less sanguine that there will be such effective enforcement-and certainly so far that has not been the case. Certainly, as of today, the problem of too-big-to-fail and too-intertwined-to-fail institutions persists.

RESPONSE TO WRITTEN QUESTION OF SENATOR SHELBY FROM EDWARD J. KANE

Q.1. Did Dodd-Frank end too-big-to-fail?

A.1. No. The Dodd-Frank Act puts the responsibility for ending Government credit support of large, complex, and politically powerful financial firms on the backs of incentive-conflicted future regulators. But the Act does not lessen the force of political incentives to rescue these firms when they get into trouble. To contain these forces, further legislation is needed whose object would be to realign bureaucratic incentives and reporting responsibilities with taxpayer interests in accountable ways. In the absence of such legislation, it is unreasonable to believe that authorities either can or will adequately measure and contain tail risk at large, politically powerful firms or sectors. The presumption that regulators can succeed year after year in these tasks—in the face of perverse Congressional pressures and recruitment procedures—ignores the facts and mechanisms of regulatory capture.

What we can call a cycle of temporarily successful regulatory reforms repeats itself in a dialectical fashion. For example, important new powers were conferred on regulators by the FDIC Improvement Act of 1991, but over time hidden risk-taking and self-serving lobbying pressure from elite sectors neutralized these powers and enfeebled rulemaking and oversight during the housing and securitization bubbles. The hard-to-document nature of safety-net benefits in good times and the financial industry's overwhelming lobbying power provide good reason to doubt that the financial rules U.S. regulators are struggling to develop today can come close to meeting the aspirations that the Act sets for them.

Financial-sector lobbyists' ability to influence regulatory and supervisory decisions remains strong because the Dodd-Frank framework that regulators are trying to implement gives a free pass to the dysfunctional ethical culture of exploitive lobbying that helped both to generate the crisis and to dictate the extravagant costs that poorly conceived financial-sector bailouts imposed on ordinary citizens. Framers of the Act ignored mountains of evidence that, thanks in large part to industry pressure, top officials tend to suppress and deny evidence of developing industry weakness in good times and have almost never detected and resolved widespread financial-institution insolvencies in a fair, timely, or efficient fashion.

Part of the problem is that Government regulators' conception of systemic risk neglects the pivotal role they themselves play in generating it. Officials are conditioned to tolerate innovative forms of contracting that are designed to be hard to supervise (such as the shadow banking system) and to rescue loss-making creditors and derivatives counterparties by nationalizing their losses in crisis situations. Although the fiscal deficits this behavior implies cannot be sustained forever, the predictability of bailout policies encourages opportunistic financial firms to foster and to exploit incentive conflicts that undermine the effectiveness of the various private and governmental watchdog institutions that society expects to identify and police complicated forms of leveraged risk-taking.

The U.S. regulatory system broke down in the 2000s because Government-sponsored enterprises, OTC derivatives dealers, and other systemically important financial institutions could not resist opportunities to shift risks to the taxpayer in clever but exploitive ways and private and Government supervisors did not adapt their surveillance systems conscientiously to curtail these opportunities by consolidating off-balance-sheet leverage and counteracting surges in taxpayer loss exposure in a timely manner. Risk managers at too-big-to-fail firms used changes in contracting forms and information technology to promote and expand regulatory and accounting loopholes that invited supervisory blindness and subsidy-sustaining mistakes by society's private and governmental watchdog institutions. Far from gratefully thanking taxpayers for rescuing them, these firms refuse to acknowledge their moral obligation to provide meaningful information to taxpayers on the value of Government credit support or to offer taxpayers a fair return for providing this support.

To build a robust, reliable, and fair system of financial regulation, relationships between financial regulators and the firms they regulate must be restructured to acknowledge their obligations to taxpayers in accountable ways. Good corporate governance requires that financial-institution managers and Federal regulators accept joint responsibility for identifying and disclosing taxpayers' *de facto* equity stake in financial firms. Until taxpayers' stake is made observable, incentives to manage the distributional consequences of regulation-induced innovation will remain weak.

RESPONSE TO WRITTEN QUESTION OF SENATOR SHELBY FROM EUGENE A. LUDWIG

Q.1. Did Dodd-Frank end too-big-to-fail?

A.1. The Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank) takes a number of important steps toward ending too-big-to-fail and ensuring that the U.S. Government will no longer need to sustain a failing financial institution in order to prevent catastrophic damage to the American financial system.

First, if executed properly, the heightened prudential requirements in Dodd-Frank will make large, interconnected U.S. financial institutions less likely to fail. Measures such as increased capital and broader liquidity standards could strengthen these firms and make them more resistant to future shocks. Concentration limits will prevent risk from pooling rapidly in one corner of the financial sector, ensuring regulators can both minimize and effectively monitor systemic dangers to the financial system.

Second, Dodd-Frank's orderly liquidation process and living will provisions give the Government tools to unwind a systemically important financial company minimizing the imposition of costs on the taxpayer. Whether the new resolution authority can be successfully deployed remains to be seen, and difficult issues of cross-border resolution linger.

Taken together, these steps have begun to shift market expectations that the Government will rescue large collapsing financial institutions. Belief in a Government backstop can foster inappropriate risk-taking by banks, in addition to fostering false hope in investors. Dodd-Frank is a serious step in the direction of lessening the use of the safety net.

RESPONSE TO WRITTEN QUESTION OF SENATOR SHELBY FROM PAUL PFLEIDERER

Q.1. Did Dodd-Frank end too-big-to-fail?

A.1. Despite the fact that Dodd-Frank has a number of provisions designed to "streamline" the failure of SIFIs and make sure that losses are properly imposed on creditors rather than taxpayers, I firmly believe Dodd-Frank falls short of eliminating too-big-to-fail. In many respects the too-big-to-fail problem has become more acute after the subprime crisis than it was before. By a number of measures the banking sector has become more concentrated as a result of the financial meltdown with, for example, Wells Fargo acquiring Wachovia and JP Morgan Chase acquiring Washington Mutual. This, coupled with the continued weakness of the U.S. (and global) economy and the precarious state of Europe and its banks, means that too-big-to-fail risks are still pronounced.

The main problem that I see in the Dodd-Frank approach to too-big-to-fail is that it presumes that it is possible to quickly resolve the complicated set of claims issued by very large and complex global financial institutions in a way that does not have significant adverse effects on the functioning of credit markets and the financial system. It attempts to do this in part by requiring that SIFIs demonstrate up front that they can be resolved under the bankruptcy code in situations of distress or insolvency. It also creates an alternative to bankruptcy by giving the FDIC "Orderly Liquidation Authority (OLA)" to impose a resolution through FDIC receivership of a SIFI.

The key question is whether, taken together, these measures are enough to remove the uncertainties and systemic risks that compel regulators and the Government to support too-big-to-fail entities. Our financial sector is still highly interconnected and much of it is opaque. This means that distress in one institution can create uncertainties throughout system. As we saw in 2008, these uncertainties can lead to credit freezes and the shutdown of key markets. In crisis situations there will be strong pressure on regulators and the Government to remove these uncertainties in order to protect the economy, and arguably the most effective (and perhaps only) way to do this is to inject liquidity (*i.e.,* money) into the banks and other systemically important entities (*e.g.,* AIG). If this were truly "liquidity support" and the solvency of the institutions were not in question, the problem would not be as bad, but knowing whether a complex financial institution is solvent when it is highly leveraged and many of its assets are illiquid makes this very difficult. In such cases the line between "liquidity support" and bailout becomes quite unclear.

As a thought experiment, assume that Institution A (a SIFI) is distressed and may be insolvent. Having a plan in place for it to be resolved under the bankruptcy code or by the FDIC through its Orderly Liquidation Authority doesn't remove the systemic uncertainty in the market. Which other systemically important entities hold claims on A or will be affected through a chain of claims by A's losses? How large will these losses be and how exactly will they be allocated among A's creditors? Will the FDIC (if it is resolving A) distribute losses in a way that protects other SIFIs and if so, which ones? If the financial sector, and particularly the large banks, continues to be highly leveraged and fragile, these uncertainties can easily lead to a crisis of the sort we experienced in 2008. The pressure on regulators to keep things afloat through some sort of bailout program that might include asset purchase, guarantees, or capital injection will be enormous. Since *ex ante* commitments not to use tax payer money to bail out financial institutions are difficult to make ironclad given the many ways support can be given, bailouts are still possible. Even if it were possible to make absolutely ironclad commitments up front, it may not be desirable to do so, as this puts the economy at risk in extreme situations when bailouts may be the best of bad alternatives.

This does *not* mean that attempts to make the resolution of distressed financial institutions simpler and less disruptive are futile. In my view increasing transparency and reducing unnecessary complexity in the system are both very important steps to take. However, they unfortunately do not eliminate too-big-to-fail. I believe that one of the most important steps in reducing the problems of too-big-to-fail is to reduce the risk of failure by requiring much more equity (capital) and restricting leverage. Reducing the fragility of our financial system through significantly higher equity requirements is a straight-forward way to make sure that losses are borne by investors and not taxpayers and that these losses do not paralyze financial markets and the economy.

I fear that provisions such as the OLA will be viewed as a substitute for higher equity requirements, rather than a complement. They may serve as an excuse to allow SIFIs to continue to operate with fairly low levels of equity capital, creating the false sense of security that resolution mechanisms will be able to resolve them quickly when they fail. As suggested above, these mechanisms don't remove the systemic uncertainties that can lead to a crisis, and they also put tremendous burden on the regulators. It is quite obvious that an FDIC resolution of a SIFI such as the Bank of America will be a much taller order than the resolution of Indymac. Requiring much more equity reduces the regulatory burden and lowers both the risk of SIFI failures and a future crisis.