CREDIT DEFAULT SWAPS ON GOVERNMENT DEBT: POTENTIAL IMPLICATIONS OF THE GREEK DEBT CRISIS

HEARING

BEFORE THE

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CONTENTS

WITNESSES

THURSDAY, APRIL 29, 2010

APPENDIX

CREDIT DEFAULT SWAPS ON GOVERNMENT DEBT: POTENTIAL IMPLICATIONS OF THE GREEK DEBT CRISIS

Thursday, April 29, 2010

U.S. HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON CAPITAL MARKETS,
INSURANCE, AND GOVERNMENT
SPONSORED ENTERPRISES,
COMMITTEE ON FINANCIAL SERVICES,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:05 a.m., in room 2128, Rayburn House Office Building, Hon. Paul E. Kanjorski [chairman of the subcommittee] presiding.

Members present: Representatives Kanjorski, Sherman, Lynch, Maloney, Perlmutter, Donnelly, Carson, Foster, Minnick, Adler, Himes; Garrett, Manzullo, Hensarling, Neugebauer, and Jenkins.

Ex officio present: Representative Bachus.

Chairman KANJORSKI. This hearing of the Subcommittee on Capital Markets, Insurance, and Government Sponsored Enterprises will come to order.

Pursuant to committee rules, each side will have 15 minutes for opening statements. Without objection, all members' opening statements will be made a part of the record.

Good morning. At the request of our colleague, Congresswoman Maloney, we gather today to examine important policy questions that have arisen from the Greek debt crisis. The crisis, which quietly evolved over a number of years, has demonstrated that innovative Wall Street bankers, acting alone or in concert with their clients, have the potential to destabilize not only a single country but an entire economic region, especially if transactions they concoct distort transparency or heighten speculation.

Among other things, this hearing will allow us to explore whether the titans of Wall Street act as traders of government debt by underwriting bonds, or traitors of governments by using credit default swaps to gamble that sovereign debt will fail. Those who bet on and seek to cause the default of a government are as bad as Benedict Arnold.

When used for genuine hedging purposes, credit default swaps are an appropriate financial tool. But when these instruments are used for speculation, they have the potential to become a Trojan horse that will insidiously infect our markets. Some very smart and sophisticated investors have characterized naked credit default

swaps as "weapons of mass destruction" that can create imaginary value out of thin air.

The tragic situation in Greece underscores the urgent need for Wall Street reform at home. Some recent news reports suggest that bankers crafted derivatives to hide Greek debt, and other stories note that the U.S. market for credit default swaps on municipal debt is growing.

Congress must respond by creating more transparency in our derivatives markets, as provided for in the House-passed bill. The derivatives bill recently approved by the Senate Agriculture Committee similarly advances the goal of greater disclosure.

Additionally, the response of the markets to the Greek debt crisis raises more questions about the utility of rating agencies. As we all know, the rating agencies greatly contributed to our recent financial crisis by failing to appropriately rate collateralized debt obligations and other structured debt. The growth in the issuance of these faulty financial instruments, which the rating agencies blessed, contributed to the explosion of the credit default swap market.

While some have raised concerns, other experts have concluded that a large and liquid market for credit default swaps, including naked positions, leads the cash bond market in price discovery and predicting adverse credit events. If this is true, then I question why the rating agencies waited so long to downgrade Greece's debt. After all, the costs for purchasing credit default swaps on Greek debt has soared for many months, but Moody's and Standard & Poor's have only downgraded the country's bonds in recent days.

The reform bill already passed in the House takes strong steps to impose a liability standard on rating agencies and reduce conflicts of interest and market reliance on them. As we proceed today, I look forward to understanding whether naked credit default swaps do indeed promote efficient price discovery and whether we should do more to reform rating agencies.

The Greek debt crisis also parallels a problem in our financial markets: the problem of "too-big-to-fail." Greece's problems have placed an enormous strain on the European debt markets and the European Monetary Union. In fact, the European Central Bank president has said that a Greek default is out of the question.

With respect to our financial markets, the demise of Lehman Brothers, American International Group, and Washington Mutual, among many others, have shown that Congress must act to mitigate systemic risk. That is why the House-passed legislation and the pending Senate bill include provisions to end the era of "too-big-to-fail," like my amendment directing regulators to break up financial firms that have become too big, too interconnected, too concentrated, or too risky.

In sum, today's hearing continues to build a case for financial services regulatory reform. More than 2 years have passed since the financial crisis began, and the Senate must take swift action on its bill so that we can finally end Wall Street's narcissistic pursuit of profit and change the way our financial markets operate.

I would like to recognize Ranking Member Garrett for 4 minutes. Mr. Garrett?

Mr. GARRETT. And I thank you. I thank the chairman. I thank the witnesses who are about to testify.

Today's hearing is entitled, "Credit Default Swaps on Government Debt: Potential Implications of the Greek Debt Crisis." There are really a number of roads our discussion this morning could go down, given that very long title.

Now, there have been some suggestions, for instance, that CDS is to blame for the problem Greece finds itself in today. But frankly, I have not been shown any evidence to really support that claim. In fact, a good argument can be made that rather than causing the Greek debt crisis, CDS actually alerted investors to the uncertainty being felt by some in the marketplace, and to help provide greater transparency about the stated Greek fiscal affairs before the country's conditions even got worse.

Now, alternatives of CDS for providing transparency about the creditworthiness of a company or a sovereign entity, of course, are the credit rating agencies. But when you think about it, I don't think anyone would suggest, given their recent track record, that the sole reliance on credit rating agencies would be the optimal strategy for policymakers now to pursue.

It has also been noted that if investors can't hedge their risk through CDS purchases, what will they do? They will be less willing and less likely to invest in the underlying debt itself. So any steps that we take to ban sovereign debt CDS, as some European governments have now proposed, actually can make it even more difficult and more costly for countries like Greece to sell their bonds and basically exacerbate the debt crisis.

Another issue in today's hearing is the parallel between Greece's poor financial condition and the financial condition here in the United States. During the discussion over financial services regulatory reform over the last year or so, there has been a lot of talk about systemic risk and so-called "too-big-to-fail" institutions.

But, the ultimate "too-big-to-fail" entity is the United States Government. And the most obvious systemic risk is the one posed by our ever-increasing Federal budget deficit and the accumulated debt here in this country.

And we have to ask, what will it take for policymakers to get serious about cutting this unsustainable spending here in Washington? Just this past week, Federal Reserve Chairman Bernanke stated, "The Federal budget appears set to remain on an unsustainable path. Moreover, as debt and deficits grow, so will the associated interest payments, an obligation that in turn further increases projected deficits. Unfortunately, we cannot grow out way out of this problem."

But despite these warnings, we can't get our Democrat colleagues here in the House to propose a budget, let alone one that will begin to put us on a sustainable path to fiscal health. And what makes our current situation even worse? As large as our official national debt currently is, it is not even truly stating what the real problem magnitude is because, like Greece and many financial institutions that have become easy targets for reform-minded policymakers, the U.S. Government is engaging in off-balance-sheet accounting that hides the enormity of our problem.

The obligations of Fannie Mae and Freddie Mac, the housing giants that are recipients, by far, of the largest of recent taxpayer bailouts are not accounted for in our budget. Some of you heard the verbal gymnastics, for example, that Secretary Geithner had to go through in this committee as he tried to explain how the government fully intends to stand behind these entities, but at the same time, their obligations, he said, shouldn't be considered foreign debt or sovereign debt.

I have a bill that would put Fannie's and Freddie's debt on the balance sheet. And to me, this really isn't a partisan issue. It is about being transparent. As a matter of fact, the record shows I have 52 co-sponsors of that bill, but unfortunately, there is only one solitary Democrat who has joined me in that effort so far. But I do remain optimistic that others will sign on.

And finally, as for the people in Greece who are finding out now that the fiscal health of one's nation, when push comes to shove, can greatly impact its citizens' standard of living, I know that everyone in this Congress wants to leave our children and our grandchildren with a country in better shape than we have inherited.

But to do that, we can't keep kicking that can down the road on the tough decisions. And we certainly shouldn't be solely blaming CDS or credit rating agencies, some of which have been recently suggested that the U.S. AAA rating could be imperiled for the problems brought on by policymakers who need to come to terms with our precarious fiscal condition, and so do something now before it is too late.

And with that, I yield back.

Chairman KANJORSKI. Thank you, Mr. Garrett.

The gentleman from Massachusetts, Mr. Lynch, is recognized for 2 minutes.

Mr. LYNCH. Thank you, Mr. Chairman. I thank you for holding this hearing today, and I thank Ranking Member Garrett, as well.

The relationship between the government and debt and complex derivatives is one that I have been particularly interested in since the financial crisis began. I think we have an opportunity today to learn some valuable lessons from the way Goldman Sachs and others conducted themselves during Greece's current situation. The role of complex derivatives in concealing and disguising sovereign debt in a very opaque market is one that needs to be closely examined.

As my colleagues from California know better than most, credit default swaps and other sophisticated financial instruments were used to manage public money. I believe these instruments to be dangerous in some cases, when they are unregulated, and should not be used when managing pension funds, public bonds, monies from municipalities, or any other type of public money unless the underwriter and the marketers and the traders agree to assume a direct fiduciary responsibility.

I have heard, in the defense of these instruments, that credit default swaps can be used to hedge certain risks. But I think what we have learned from this crisis is that what we thought was hedged was really just a complex instrument that was very poorly understood.

While it is certainly a huge step forward, I am not completely convinced that the derivatives title included in the House regulatory reform bill, H.R. 4173, the Wall Street Reform and Consumer Protection Act, goes far enough to protect public funds and pension funds and municipalities from being manipulated again in the future. In addition to Greece, cities and towns all over the country are struggling with the ramifications of using complex derivatives.

I look forward to our witnesses' testimony today to examine further these issues, and I thank them for their willingness to come before this committee and help us with our work. And I yield back.

Thank you, Mr. Chairman.

Chairman KANJORSKI. Thank you very much, Mr. Lynch.

Now we will hear from Mr. Bachus from Alabama for 3 minutes.

Mr. BACHUS. I thank you, Mr. Chairman, for convening this morning's hearing, and I thank the witnesses for your attendance.

The ongoing Greek debt crisis, while tragic, is the result of decades of reckless spending, and that is something we are quite familiar with here in the United States. Without real spending cuts and GSE reform, the bailouts will not stop, the housing market will not find its footing, and the American economy will not recover.

But so far, the response has been to pledge unlimited bailout aid. In fact, the GSE debt alone has already cost American taxpayers more than $127 billion, and puts them at risk for another $5 trillion in guarantees.

The events of 2008 demonstrated there is a need for legislation to address shortcomings in the regulation of derivatives. But demonizing credit default swaps is not the answer. Used responsibly, derivatives are a critical tool for managing risk, including the risk of sovereign debt default. Thousands of U.S. companies use derivatives to hedge against unforeseen events and risk inherent in their business.

With the current sovereign debt crisis in many European nations, while it is instructive about the growth in impact that sovereign CDS can have on the capital markets, Congress should not unnecessarily impair the important benefits that credit derivatives can provide.

All of us agree derivative markets need more transparency and disclosure. We recognize the Federal Reserve discount window was not intended as a source of funds for banks to speculate with derivatives for their own account.

However, restrictions on credit default swap contracts limit the ability of investors to appropriately calculate risk, as CDS spreads are often a more accurate reflection of credit risk than credit ratings. We have found that the credit rating agencies have not always been reliable measures of creditworthiness.

That being the case, investors should not have alternative and effective risk management tools, such as credit default swaps, arbitrarily removed from their risk management arsenal. The growth of the CDS market is a reminder that market solutions are capable of supplying information investors need to make informed decisions. Arbitrary bans of certain derivative products would only force derivative dealers out of the marketplace, and ultimately increase, not mitigate, systemic risk.

Let me close by saying in The Republic, the Greek philosopher Plato stated, "We can easily forgive a child who is afraid of the dark. The real tragedy of life is when men are afraid of the light."

Mr. Chairman, when will the Administration see the light and realize we can no longer keep GSEs' debts in the shadows and continue down our current path of fiscal irresponsibility? Unless we change course, I fear America will soon experience its own Greek tragedy.

Thank you, and I yield back the balance of my time.

Chairman KANJORSKI. Thank you very much, Mr. Bachus.

And now, we will hear from the gentlelady from New York, Mrs. Maloney, for 5 minutes.

Mrs. MALONEY. Thank you, Chairman Kanjorski, for holding this hearing, and welcome to the witnesses.

This is truly a critical hearing, both because of the international conditions concerning sovereign debt, but also because of what we are working on in Congress. Financial regulatory reform will mean significant changes to the overall functioning of the derivatives market.

We are shining a light on over-the-counter derivatives, the financial instruments that have been at the heart of the debate of economic and financial news at home and abroad since the global economic crisis began. These complicated financial instruments can be used for hedging or insuring against risk, which is good. But the lack of transparency in their use, together with the lack of regulation of the market, can combine to give them the potential to catalyze economic havoc.

Warren Buffett has called derivatives, "financial weapons of mass destruction," and many have argued that these instruments were responsible for the economic crisis in the United States. Our goal today is to better understand derivatives so we can ensure that they do more good than harm in today's global economy.

We have experienced the impact of unregulated derivatives in housing in the United States, and are still recovering from it. AIG was unable to pay out on insurance on residential-backed mortgage securities, and the effects on counterparties was massive. This brought our country to the brink of collapse, and the lack of transparency was a major factor.

We are now watching the risk of derivatives play out when it comes to sovereign debt. As this chart on the left shows, the net notional amount of CDS on Greek debt, which represents the bets on Greeks' ability to pay, is well over $8 billion, which is quite large compared to the $300 billion of outstanding debt in Greece. In contrast, the CDS on U.S. debt, debt which is in the trillions, is only one-quarter of the size.

Today there are $1.2 trillion in outstanding CDSs. Sovereign credit default swaps make up 16 percent of $200 billion of that total, and European Union CDSs represent two-thirds, $131 billion of all sovereign CDSS. Greek CDS make up 6.3 percent, or $8.3 billion, of all European sovereign CDSs.

The use of derivatives on sovereign debt has exploded over the last decade. Two different types of derivatives have been used by countries looking to gain entry to the European Union. They were

used in some instances to improve the appearance of their debt-to-GDP ratio.

In currency swaps, the infusion of cash based on outstanding debt in different currencies that fluctuates, the cash infusion is really just a loan to pay current expenses that is paid back over time with other resources.

Credit default swaps can be used as a form of insurance on sovereign debt, but they also act as instruments that just allow a bet to be placed that a country will default on its debt obligations.

While the use of over-the-counter derivatives has exploded, regulation of these instruments remains nonexistent. There is a need for regulation and transparency. This market has been almost completely unregulated because most of the deals are between counterparties, and there is no reporting requirement.

These transactions also do not have to be cleared by an independent third party or traded on a national exchange. For these reasons, investors are largely uninformed about the extent of financial entities exposed to risk and about the CDSs that have been taken out on any asset-backed security.

Regulatory reform will bring needed transparency into the market. It would protect investors from exposure to undisclosed and excessive overleveraging. And investors can still make bets, but they will have a better idea of the real odds.

The Greek debt crisis is just a single example of the use of complex derivatives, but this hits as close to home as New York. In Greece, investors must now pay $711,000 to insure $10 million in Greek government bonds. This is up from $250,000 in the beginning of the year, almost threefold.

Concern has also been expressed at the State level about CDSs on State debt, specifically in California.

And the question is, how do we regulate over-the-counter derivatives such as sovereign debt, CDSs, so that they can be used for legitimate purposes without spreading financial contamination to other countries and other financial institutions?

Thank you, Mr. Chairman. I ask permission to put all of my statement in the record. My time has expired. Thank you.

Chairman KANJORSKI. Without objection, it is so ordered.

Now we will hear from the gentleman from Texas, Mr. Hensarling, for 4 minutes.

Mr. HENSARLING. Thank you, Mr. Chairman, and certainly thank you for calling this hearing. When I look at the title of the hearing, "Credit Default Swaps" in the first part and "Greek Debt Crisis" at the end, I think it would behoove Congress to spend a lot more time focusing on the debt crisis in credit default swaps.

I somehow feel to some extent, as I listen to some of the opening statements, that there is an element of, let's shoot the messenger, the credit default swap market. Let's to some extent say that they have exacerbated the Greek debt crisis.

The lesson here for us—and I might add, to amplify a comment of our ranking member—the market acted more efficiently than the rating agencies. And theoretically, Greece had a deficit-to-GDP ratio and a debt-to-GDP ratio that didn't qualify under E.U. standards. And yet they were still allowed to remain as a member of the E.U.

And so the early warning signals in many cases actually came from the credit default swap market. We need to be very cautious on how we approach any type of new regulatory scheme that might harm the ability of essentially this early warning system. And it is certainly an early warning system to the United States of America.

As we know, I believe Greece is now having to restate their deficit-to-GDP ratio up to about 12 percent. Right now, we have a deficit-to-GDP ratio of 10 percent. We know also at the end of the President's 10-year budget window, according to estimates by the Congressional Budget Office and the General Accountability Office, we are looking at a debt-to-GDP ratio of 90 percent. All economists will tell you that is when the needle enters the red zone.

Press reports indicated that members of Chancellor Merkel's party in Germany have called upon Greece to sell its sovereign territory in order to deal with its debt crisis. Sell sovereign territory. I hope and pray that the United States is not on the path to becoming Greece without the Aegean Sea and the Parthenon.

But there are lessons to be learned here for us. There are also press reports that indicated that when Argentina defaulted on its debt—and I don't believe the United States would ever default on our debt—but when Argentina defaulted on its debt 7 or 8 years ago, creditors actually tried to put a lien on their navy, their naval vessels.

Here we are probably facing the most predictable crisis in the history of America, and yet almost each and every day, this Congress makes it worse. And when we talk about accounting being opaque, again to amplify comments of the ranking member, how can we have our Secretary of Treasury come here and say, the debt of the GSEs are not sovereign debt, but we are going to back each and every dollar?

And somehow, again, we know that one of the causes of the financial crisis was essentially these off-balance-sheet vehicles, and yet we have Uncle Sam engaged in the worst. There are 127 billion reasons why the GSEs ought to be reformed, and yet the bill that is going through Congress now is stone-cold silent on the root cause of the problem. These are the true lessons we ought to be learning from Greece.

Thank you, Mr. Chairman. I yield back the balance of my time.

Chairman KANJORSKI. Thank you very much, Mr. Hensarling. And now we will hear from our final presenter, Mr. Perlmutter, for 3 minutes.

Mr. PERLMUTTER. Thank you, Mr. Chairman, and thank you, panelists, for being here today. I look forward to hearing your testimony today to find out what lessons you would have us learn. I think that the country, our country, has learned the lessons of tax cuts for the wealthiest and prosecute two wars, and then absolutely stand by and do nothing while major financial institutions like Lehman Brothers go by the wayside under the Bush approach and the Republican approach, is financial disaster.

And we saw that financial disaster in the fall of 2008. And this country can't afford to go that approach any longer, and I am glad that Democrats are now in control to try to pick up the pieces after

the mess that was left by the Republican Administration and the Republican Congress.

And my friends on the Republican side of the aisle love to talk about Fannie Mae and Freddie Mac, and they should have been reformed earlier. And I like to remind them of what the former chairman of this committee, Mr. Oxley, had to say when he and Mr. Frank tried to do reform of Fannie Mae and Freddie Mac. Mr. Oxley is quoted in the article from the Financial Times dated September 9, 2008.

Mr. Oxley fumes about the criticism of his House colleagues: "All the hand-wringing and bed-wetting is going on without remembering how the House stepped up on this," he says. "What did we get from the White House? We got a one-finger salute."

This is the kind of situation where your testimony today is going to be helpful in deciding how much regulation really needs to go on with these kinds of derivative bets—how often they need to be cleared, how much margin needs to be put down, and what is the effect on a nation like Greece when its debt becomes overwhelming.

This country is taking steps to get people back to work and to rein in the debt and institute uniform and consistent regulation on its financial markets, unlike under the prior Administration. And we hope that your testimony today will provide us with further insights.

And with that, Mr. Chairman, I would yield back.

Chairman KANJORSKI. Thank you very much, Mr. Perlmutter.

And now, I have 1 minute from the gentleman from Indiana, Mr. Donnelly.

Mr. DONNELLY. Thank you, Mr. Chairman.

The American people have lost confidence in CDSs, CDOs, synthetic CDOs, and their aftermath. They have lost confidence in the word and in the trustworthiness of the institutions creating these instruments, and whether there is really any purpose behind these instruments other than gambling and other than opportunities to try to take advantage of someone else or some other organization or some other country.

Transparency and trustworthiness are needed. They are a big part of the effort being made by this committee. And I look forward to this hearing. Thank you, Mr. Chairman.

Chairman KANJORSKI. Thank you very much, Mr. Donnelly.

Now we will hear from our first panelist, Mr. Robert Johnson, director of global finance, Roosevelt Institute.

Mr. Johnson?

STATEMENT OF ROBERT JOHNSON, DIRECTOR OF GLOBAL FINANCE, ROOSEVELT INSTITUTE

Mr. JOHNSON. Good morning. Chairman Kanjorski, Ranking Member Garrett, and members of the subcommittee. I thank you for the opportunity to address the issues related to credit default swaps and their implications for government debt.

As the Congress considers legislation on financial reform, I applaud your efforts to explore the implications of financial practices, financial innovation, and particularly the practice in the areas of derivative securities. It is my view that the explosive growth of de-

rivatives and the immaturity of those market systems is at the core of the financial dangers that we face moving forward.

I have stated elsewhere, and continue to believe, that the over-the-counter derivatives market is the San Andreas Fault of our financial system. The interconnection of balance sheets of the so-called "too-big-to-fail" firms and the OTC derivatives are a cocktail that may force taxpayers to drink from disaster again in the future.

Repair of the system to reduce complexity and opacity will allow the markets to function better when adversely shocked, as they were by the housing price downturn, and as they will surely be shocked again.

Strong, transparent markets are well-fortified with capital buffers, supervised and examined thoroughly, and they are a means to help us reach our social goals. Market systems that are structured according to the profit imperatives of a few concentrated firms, firms that are supported by the backing of taxpayers, are very dangerous to the financial health of our Nation.

The structural designs that encourage a private appetite for risk that exceeds the social benefits of that risk-taking are unhealthy. Markets are a public good, and their structure has to attain and maintain integrity, despite the formidable pressures that individuals, in particular big business interests, will bring to bear to refract that design for their private benefit, while being unmindful of the harm that they could impose on society.

Today, our concern is with the impact of the CDS derivatives market on government debt. I want to emphasize the history of government debt growth, as many of you have commented, across many nations and many times, suggests that war and financial crisis are the greatest causes of extreme and rapid increase of public indebtedness.

Some analysts of the budget in Washington have estimated the financial crisis of 2008 will result in a doubling of a U.S. debt-to-GDP ratio. Therefore, the concerns about our public finances must be concerns about financial reform. Said another way, one cannot credibly claim to be a deficit hawk unless one is also a financial reform hawk.

The credit default swap market has grown tremendously in recent years. The instruments played a large role in the financial crisis after the failure of Lehman Brothers, particularly with respect to the AIG bailout. AIG provided mirage capital and mirage protection to financial firms, and it evaporated in the crisis. It was picked up by the taxpayer.

At times, innovation is worshiped as a goddess of progress, even when we don't have the ability to measure the value of that innovation. It is an article of faith, but it does not appear to be the case that financial innovation inspires our faith any longer.

Faith in the financial practices and wisdom of unfettered markets has been shattered. At the same time, faith in regulators and government action in the aftermath of the bailouts is also absent, and experts in financial theory now lack credibility in light of the scale of the crisis due to their inattention to the risks associated with innovation. Praying at the altar of liquidity and innovation rings hollow without a clear acknowledgment of the damage that immature market structures can influence on society.

In the market for credit default swaps, some have been tempted to ban the instrument altogether. It is clear, in light of recent revelations about financial practice and tremendous social losses that can be caused, that a profound shift in sentiment has taken place.

At the same time, I would argue that there is a sound logic that underpins construction of these instruments that isolate and transfer credit risk to where it is most able to be borne. Properly structured, transparent CDS markets that are well-capitalized and regulated can contribute to our well-being.

In these controversial times, it is important to keep in mind that markets are a useful tool, but a tool that must be managed and administered when constructing a balance between the social costs and benefits of a market for credit insurance.

Theories that depend upon the vision of the market possessing a high quality of information as a maintained hypothesis may not always be a good guide to the behavior of credit default instruments.

The standard, fundamental theory of pricing operates from the premise that a market knows what the probability of default is after a period of discovery, and it reflects that knowledge. Attempts to buy credit default risk increase the price and are met with a supply from those that know when the price is too high. The price represents the truth, and deviations from the truth are arbitraged away.

The alternative perspective envisions a market filled with uncertainty and imperfect information. In this perspective, buyers of large amounts of CDS transmit a market signal that inspires others to believe that they know something that risk has risen.

Drawing inference from price, market participants then sell bonds and stock in the belief that default risk is greater. The higher funding costs in turn depresses earnings and validate that projection of greater risk. The causation runs from price to fundamental outcome.

Examples of market manipulation contained in the appendix suggest there is cause for concern regarding credit default swaps. Issues related to incentives for restructuring for impaired companies and countries potentially are also complicated by the presence of credit protection in effecting incentives.

Government and municipal services are essential, and manipulative market methods may put them at risk. The hierarchy of human needs for basic elements of social function implies that this inquiry that you are holding today is a valid concern of public officials.

The appendix that follows contains my remarks. I will just speak regarding the Greek crisis, and I will echo many of your introductory remarks. The Greek crisis in sovereign debt is not fundamentally caused by credit default swaps. One of you spoke about the messenger. I don't even think it is a big enough messenger to shoot at in this case. The outstanding amount of credit default swaps in Greece was very small.

Thank you. May I submit the balance of my remarks for the record?

[The prepared statement of Mr. Johnson can be found on page 64 of the appendix.]

Chairman KANJORSKI. Thank you very much, Mr. Johnson.

Let me make a point—I failed to do that—that we will make the entire statements of the witnesses a part of the record. And we request that we hold ourselves to 5 minutes. We will give you a little leeway, though, because we are interested in what you are saying and we appreciate your testimony.

We will now hear from Mr. Robert Pickel, executive vice chairman, International Swaps and Derivatives Association, Incorporated. You must be a popular man this week, Mr. Pickel.

STATEMENT OF ROBERT PICKEL, EXECUTIVE VICE CHAIRMAN, INTERNATIONAL SWAPS AND DERIVATIVES ASSOCIATION, INC.

Mr. PICKEL. I would like to think so.

Thank you, Mr. Chairman, Ranking Member Garrett, and members of the committee. Thank you again for the opportunity to testify before this committee. I have testified at least on one other occasion before this committee. And this time I look forward to discussing credit default swaps and government debt.

I have submitted my statement for the record, so let me just summarize some of the key points I have raised in that. I will talk a little bit about the varied purposes and motivations for parties who utilize credit default swaps. I will talk about the important information and signaling function that they can provide.

I will briefly highlight the many industry efforts that are going on as it relates to credit default swaps, but also derivatives generally, in the areas of systemic risk, transparency, and infrastructure. And then we'll talk a little bit about manipulation, focusing on the unique nature of these products and why that nature in fact provides significant protections against the ability to manipulate through credit default swaps.

The classic use of a credit default swap is to hedge credit risks that a company might have, typically a bank which has lent money or a company that owns the bonds of an institution. That is the traditional hedging purpose of a credit default swap, buying protection.

But there are many other purposes for using credit default swaps beyond that traditional hedging function. Investors in the debt or equity of companies in a specific country may use sovereign CDS as a proxy hedge against potential shocks to the economy of that jurisdiction. Investors with real estate or other corporate holdings or other investments in a country may similarly use sovereign CDS to protect against their investments in those countries.

Portfolio managers may use sovereign CDS to hedge against country, liquidity, and market risk. Large banks, who typically do not, with highly rated sovereigns, post collateral or receive collateral from those sovereigns, may use CDS to provide some element of credit protection against that uncollateralized exposure.

And then, of course, anyone who sells protection to anyone who is buying protection by definition is taking on credit risk, and therefore may wish to use credit default swaps to hedge some of the exposure that it has. Even banking supervisors in central banks can use the price signals provided by the CDS market to as-

sess default risks in their system. So there are many different purposes for utilizing credit default swaps.

They do provide, as I think has been alluded to by a number of the opening statements, important information to the marketplace, information that 5 or 10 years ago did not exist. We are not suggesting that credit default swap information should replace the other information that exists out there, whether that be credit rating agencies, an investor's own due diligence, but we think it is important additional information.

And in fact, we know, from talking to treasurers or companies, that they are watching their credit default swap spreads as closely as they watch their stock price. It is a regular assessment by the marketplace of how the company is doing.

So more information is certainly better information, and I think finance ministers of countries can utilize the credit default swaps on their sovereign CDS similarly to get an assessment of the marketplace's assessment of the running of their economy.

We have, as an industry, undertaken a number of different initiatives relating to credit default swaps and derivatives generally. We have focused on reducing systemic risk and the interconnectedness risk that we saw in 2008. That is primarily through establishing central counterparties, clearinghouses, and utilizing a process of compression to reduce the outstanding number of obligations outstanding.

We have also increased transparency by establishing trade repositories, and the information that is on the chart over here is drawn from that trade information warehouse that has been established and up and running for the last 3 or 4 years, sponsored by the Depository Trust Clearing Corporation. So that information is readily available and is extensively used as parties look at the exposure that is outstanding on any particular company or country.

Then finally, I wanted to just briefly respond to suggestions about manipulation through credit default swaps. And to look at this, we need to understand the fundamental nature of these products, these bilateral transactions. It is two parties who are entering into this transaction. Anytime one is going short in a transaction implicitly, by definition, another party is going long, taking the—selling the protection position.

So that is a natural tension that exists in the bilateral relationship. And it is very hard in a series of bilateral relationships, bilateral contracts, to have the type of manipulative effect that has been suggested for credit default swaps.

And the fact of the matter is that there are other mitigating factors relating to potential allegations of manipulation. Mr. Johnson referred to the fact that the amount outstanding of credit default swaps as it relates to sovereign debt is very small, certainly in the Greece situation as well as other situations. Also, the majority of sovereign CDS investors are likely hedging legitimate economic risks, even if they don't hold the actual bond.

And then finally, sovereign CDS may actually serve to moderate downward pressure on troubled countries because if the CDS market did not exist, the only alternative would be to sell the bonds or not take on the debt exposure to begin with.

So those are the main points that I have raised in my testimony, and I look forward to the questions of the committee. Thank you, Mr. Chairman.

[The prepared statement of Mr. Pickel can be found on page 94 of the appendix.]

Chairman KANJORSKI. Thank you very much, Mr. Pickel.

And we will now hear from Mr. Darrell Duffie, professor of finance, Graduate School of Business, Stanford University.

Mr. Duffie?

STATEMENT OF DARRELL DUFFIE, PROFESSOR OF FINANCE, GRADUATE SCHOOL OF BUSINESS, STANFORD UNIVERSITY

Mr. DUFFIE. Thank you, Chairman Kanjorski, and Ranking Member Garrett.

As several committee members have mentioned in their opening remarks, concerns have been raised that speculation in credit default swaps has been responsible for raising the borrowing costs of Greece, California, and other government borrowers.

My written testimony contains empirical evidence, charts, and statistical evidence, with Professor Zhipeng Zhang of Boston College, showing that there is no evidence that speculators have been responsible for raising these borrowing costs.

First, as has been mentioned by Mr. Johnson and Mr. Pickel, the amounts of credit default swaps that have been used to either hedge or speculate against Greece is relatively small compared to the amount of Greek bonds outstanding. It is under 3 or so percent. Similarly, the amount of credit default swaps on California is under 2 percent of the amount of debt outstanding.

Second, there is no evidence of large swings in the amount of protection that has been brought. Charts in my testimony show that the changes from week to week of credit default swap protection is rather small.

Third, changes in the amount of credit default swaps written on these government borrowers and other weaker European sovereign borrowers are not related to the credit default swap rates demanded by investors in this market. In other words, this sort of speculation, if it is speculation, or hedging, is actually not related to changes in Greek borrowing costs or the borrowing costs of these other sovereigns or California.

And finally, as several of you—Chairman Kanjorski and Ranking Member Garrett—have suggested, the credit default swap rates have actually risen in advance of information that has been revealed about the true indebtedness of Greece.

And as that information has come into the market, we have learned that Greece is likely to be unable to pay back its debt on its own, and it is this fact that has raised its borrowing costs. It is quite hard to imagine how speculation by credit default swap investors has caused Greece to borrow more than it can pay back.

Also, I would like to say that the external support that has been provided to Greece does not, however, imply that Greece will avoid default. The CDS rate for Greece, which is a close proxy to its borrowing rates, has gone to 10 percent in the last few days, indicating a significant chance of default.

The debt crisis faced by Greece has profound implications for other Eurozone countries right now. Eurozone governments issue debt in a common currency. If one of them is unable to pay its own debt, other Eurozone countries have an incentive to come to the rescue and to protect the stability of the Euro on which they commonly depend.

In the long run, however, there can be an erosion of the incentives of fiscally stronger Eurozone countries to support fiscally weaker Eurozone countries. Economists call this a free rider problem. Each time a Eurozone country spends more than it can pay back, the fabric of the Eurozone is weakened. This is important to the interests of the United States because the stability of the Euro contributes to global economic growth and security.

Regulations that severely restrict speculation in credit default swap markets could have the unintended consequences of reducing market liquidity, which raises trading execution costs for investors who are not speculating, and of lowering the quality of information provided by credit default swap rates regarding the credit qualities of these issuers.

Regulations that severely restrict speculation in credit default swap markets could, as a result, increase sovereign borrowing costs somewhat. In any case, speculation could continue via short selling of the underlying sovereign bonds to the extent the bond market is liquid.

Proposed reforms of the over-the-counter markets for credit default swaps and other over-the-counter derivatives will improve the safety and soundness of these markets. Data repositories will eventually give regulators the opportunity to police those who would manipulate these markets or would take positions whose risks are too large with respect to the capital backing them.

Central clearing, if done effectively, will also bring needed stability to this market. Transactions price reporting will add additional transparency and improve market efficiency.

Thank you for the opportunity to present my views.

[The prepared statement of Professor Duffie can be found on page 50 of the appendix.]

Chairman KANJORSKI. Thank you very much, Mr. Duffie.

And now, we will hear from Dr. Anthony B. Sanders, distinguished professor of finance, George Mason University.

Dr. Sanders?

STATEMENT OF ANTHONY B. SANDERS, DISTINGUISHED PROFESSOR OF FINANCE, GEORGE MASON UNIVERSITY

Mr. SANDERS. Mr. Chairman and distinguished members of the committee, on November 5, 2009, Reuters published a story entitled, "Greek Debt Reached 120.8 Percent of GDP in 2010." Everyone around the global is aware of how Greece's excessive debt fiasco had led to a meltdown of the European economy, potential meltdown, at only 120 percent of GDP. Things became even more critical when Greece discovered it had overlooked $40 billion more of debt. Markets do not like surprises.

These stories about the Greek economy beg the following question: Was the cause of the fiscal collapse of Greece perpetrated by credit default swaps, or was it out-of-control spending and bor-

rowing by the Greek government that led to Greece being, in popular parlance, broke?

Credit default swaps play two important roles in the market for credit. First, they facilitate liquidity by allowing investors to hedge against negative outcomes—for example, defaults—and second, CDS provide vital information to other market participants about the risk of a particular investment.

This price or spread conveys information to potential investors, communicating the level of risk involved in an investment, and helping them to make a more informed and prudent investment decision. Restricting either of these roles makes credit less widely available and markets less transparent.

CDS is the current villain du jour in the Greek debt fiasco. The Greek crisis is the result, again, of massive government spending and debt issuance to fund that spending. In fact, CDS in Greek sovereign debt actually served a positive role: It alerted everyone around the globe that Greece was in fact in a death spiral from credit.

CDS is often misunderstood. Essentially, it allows investors to hedge their positions in debt, in this case, default of Greek sovereign debt. An investor may hold Greek sovereign debt long and may want to partially or fully insure against that default on debt. By limiting or abolishing CDS, you not only decrease liquidity for investors, which is a terrible idea, but you actually decrease liquidity in the underlying asset, in this case Greek sovereign debt.

As can be seen in Exhibit 1 in my report, CDS spread started to widen in October and November of 2009. By December 2009, CDS spreads widened even more dramatically. That is when the 120 percent GDP story came out.

Now, consider further the Greeks' surprise when on April 2, 2010, a story revealed that Greece had another $40 billion of unknown debt, and CDS widens. For a country that is already deep in trouble making its debt payments, the discovery of another $40 billion came as a rude surprise. I also show that in my exhibits, how devastating this is.

So focusing on the instrument as the cause of the problem, in this case CDS, misses the real culprit, the behavior of the underlying asset. With Greece, CDS reacted to the behavior of the underlying asset, the debt. Just as in the housing crisis, CDS has been blamed for exacerbating the crisis, but really, it was the behavior of the underlying asset, housing prices and mortgages, that was the issue.

If you are looking to place blame, don't blame the instrument. Blame the behavior of the underlying asset. Greece hid its debts. Markets found out and reacted appropriately. This is a lesson we learned well for the United States. Our own sovereign debt has a Greek surprise component, too. It is called GSE and agency debt.

As Secretary Geithner tried to emphasize in a recent House hearing that I was involved in, the Federal Government's support of Fannie Mae and Freddie Mac does not change the legal status. In addition, he said, the corporate debt of the GSEs is not the same as U.S. Treasury debt.

Secretary Geithner went on to say he wanted to eliminate this ambiguity. I completely agree with Secretary Geithner. But to end

that ambiguity, we need to at least recognize the GSE corporate debt on the Federal budget along with projected guarantee book losses.

An argument can be made against requiring that the guarantee books be brought on balance sheet, and an argument can be made to bring them on balance sheet. As I had mentioned before, the CBO has projected that these losses will be about $400 billion over 10 years, which could be higher or lower depending on future economic conditions, interest rate, and tax rates. These guarantees are supported by cash flows from borrowers, so it's less critical to bring them on the Federal balance sheet, although the losses that are expected should be recognized.

Lastly, I would err on the side of fiscal conservatism by raising the projected guarantee charges for $400 billion to a higher number based on stress tests by the CBO in the same way that Fannie and Freddie run stress tests and alternative scenarios. FHFA has the stress test results, and we should prepare for the possibility of a double dip in housing prices in a few of the recessions, which is going to drive those losses much higher.

Thank you for allowing me to share my thoughts with you today.

[The prepared statement of Dr. Sanders can be found on page 103 of the appendix.]

Chairman KANJORSKI. Thank you very much, Dr. Sanders.

And finally, we will hear from Mr. Joseph R. Mason, Louisiana Bankers Association professor of finance at the Louisiana State University.

Mr. Mason?

STATEMENT OF JOSEPH R. MASON, LOUISIANA BANKERS ASSOCIATION PROFESSOR OF FINANCE, LOUISIANA STATE UNIVERSITY

Mr. MASON. Thank you, Chairman Kanjorski, Ranking Member Garrett, and members of the subcommittee for inviting me to testify today on this important and timely topic.

While it is widely held that unprecedented monetary and fiscal policy responses of countries worldwide have been successful at preventing a worst-case scenario repeat of the Great Depression, the combination of rising fiscal deficits and continued monetary policy accommodation has raised concerns about the sustainability of public finances and fears of inflation. As a result, the recent uproar about Greece's fiscal woes and possible debt default are viewed by many as merely a canary in a coal mine.

It is hard to argue that Greece is not to blame for its difficulties. As of December 2009, Greece had the highest fiscal account imbalance, as a percent of GDP, in all the Euro area countries and Britain at negative 7.7 percent, and its projected 2009, 2010, and 2011 balances were second only to Ireland.

With a long history of fiscal stress and four previous defaults in modern history, investors are right to be suspicious. As of this hearing, Spain, Ireland, Italy, and Portugal are being pressured for similar good reasons, not mere contagion.

Defaults are nothing new, even for sovereign entities and municipalities. There exists a long history of defaults throughout the world as well as U.S. history. The definitive guide to the history

of U.S. State and municipal defaults shows that even in the Great Depression, States with serious default problems took on far more debt in the decade than States that had no defaults. Hence, even historically, default is not a threat without a substantial debt load.

More recently, S&P reports that the 5-year transition rate for AAA-rated local and municipal debt over the period 1975 to 2009 was 27.4 percent, with 10.9 percent of that resulting from ratings that were withdrawn and 16.4 percent resulting from ratings that were downgraded. S&P reports that the sovereign speculative-grade-rated 15-year default rate over the same period was 29.66 percent. The point is, sovereign defaults happen.

A real problem in the sovereign CDS market, however, arises because of the concentration in counterparty risk. Whether that concentration is at a central counterparty or a small group of market participants, the risk remains. Recently, the IMF has opined that the magnitude of risk to be assumed at the proposed CCP on behalf of unmargined market participants is of an order of magnitude in the neighborhood of some $200 billion, and is rising daily with further exemptions. That estimate should not be dismissed or the amount will surely precipitate a future crisis.

Some have pointed to CDS as creating problems for sovereign debt financing. It is hard, however, to see the case. While CDS provide transparency by aggregating market views of the probability of default and recovery, CDS in and of themselves do not create additional volatility to those views.

The view of CDS as creating volatility comes from observations that CDS spreads can widen quickly before a credit event, reflecting demand from CDS protection buyers. Some of the furor arises because CDS markets may be dominated by fast-moving hedge funds, while cash bond markets are dominated by buy-and-hold real money investors.

While it can seem that the signals from the two markets may be at odds during distress, the apparent divergence has been shown to be bounded by some fundamental institutional and value distinctions between CDS and the underlying debt contracts.

CDS do contribute greater information to markets than credit ratings, but no degree of rating agency liability, not even that greater than the PSLRA that would make them responsible for even Goldman Sachs' alleged fraud, will change that relationship.

Overall, the danger that a CDS buyer may deliberately trigger a credit event remains theoretical. There are no known cases of adverse behavior that have directly impacted debt borrowers because those borrowers are known to be struggling financially anyway.

In sum, therefore, I am not convinced that sovereign CDS deserves its current negative press, and fear that a ban or restriction on trading could easily backfire. Bans on trading activity tend largely to reduce liquidity, forcing a reversion to a world where sudden and unhedgeable price jumps occur when information about underlying fundamentals is occasionally priced into an illiquid market, that is, when someone finally trades.

Sovereign CDS provides an efficient way to trade and to hedge credit exposures to governments, as well as a more continuous way for governments to poll their fiscal decisions more continuously in

the marketplace. If governments do not like that transparency, it seems they doth protest too much.

Thank you.

[The prepared statement of Professor Mason can be found on page 81 of the appendix.]

Chairman KANJORSKI. Thank you very much, Mr. Mason. I thank the entire panel for their testimony, and now we will move to the questions. I will take the first 5 minutes, and at the conclusion of my 5 minutes, I will ask Mrs. Maloney to take the chair.

I am not sure what I am supposed to gather from the testimony of all five witnesses other than that CDSs obviously are not the problem, but we have a big problem out there. Is that true, relatively speaking? We just have not done a postmortem to determine what really constitutes the problem, and how it can be solved. Is that reasonable?

And the reason I ask you that is over the last 3 or 4 weeks when the Greece problem was called to international attention, it started at $45 billion, a need for a $45 billion underwriting or infusion from the European Union, and now it is up to $120 billion and climbing. And somebody today stated that there is no way that they can work a rescue here without a restructuring.

I would like your reaction to that opinion, if any of you have one. Is that a correct or a likely conclusion?

Mr. DUFFIE. Mr. Chairman, could I address that?

Chairman KANJORSKI. Surely.

Mr. DUFFIE. You are correct. The estimates of how much will have to be loaned to Greece have gone up—tripled in the last few days. And again, relying on the CDS markets, as we have said, there seems to be a perception that Greek sovereign debt has a significant probability of defaulting anyway.

One of the reasons for that is that these monies coming from the IMF and the Eurozone countries are not donations to Greece. They are loans. They have to be paid back. So they will actually increase Greece's indebtedness, although the terms of the loans are rather generous.

The other issue is that some of these loans to Greece in external support may actually come in ahead of Greek sovereign debt in terms of who gets paid first. And that actually causes concerns to some Greek sovereign debt holders. If the IMF, for example, gets paid before them, maybe there won't be enough left for them.

So in summary, I think it is not at all clear that Greece will avoid a restructuring of its debt or an outright default, and only time will tell.

Mr. SANDERS. Chairman Kanjorski, I would like to first of all agree completely with my esteemed colleague, Professor Duffie. But I would also like to point out that it is just not Greece; it is also Portugal—Spain is about to blow up; Ireland; Iceland. Great Britain is on the brink, too.

So we are talking about a substantial amount of—some of those are non-Euro countries, but that Europe in general is having a severe meltdown due to, again, excessive spending. And it is biting them really hard right now.

Chairman KANJORSKI. What sort of potential—obviously, we do not have jurisdiction to intrude into the European Union. But I am

dealing with them on financial matters on a regular basis now because we are trying to do our regulatory reform consistently, with the E.U. and the United States being on an equal footing.

This is rather shocking, though, that suddenly someone can discover $75 billion of new debt that was really unrealized just 3 or 4 weeks ago. And it is true, when you talk about Spain, Portugal, Italy, and Ireland, if you throw them all in, the one commonality they seem to have is that they have violated the rule for entry into the Euro Union in that they went—they are all over 60 percent in debt, as opposed to the other countries that were far more stable and were in the union originally. I guess it proves that whoever set that formula up knew what they were thinking or talking about.

But like anything that can be contagious, and we saw that recently in the credit crisis in the United States when things started to tumble, suddenly what are reasonable assets become valueless or almost valueless. And that obviously, probably, is happening to some extent in these countries.

How do we put a stopgap in there, and how do we prevent that constant rolling motion that would take everything down, eventually the entire European Union? Is there some thinking on that? And maybe somebody wants to grab it and run with it?

Mr. MASON. If I may, one substantial element that was left out of the European Union construct was a way to address individual country difficulties through some type of central bank action. In fact, that is why we designed the U.S. Federal Reserve System as a system of central banks able to address regional needs, even if the entire Nation did not need a stimulus.

That is a fundamental flaw, and that is what creates the risk of being unable to address specifically Greece, Italy, and Spain while leaving, for instance, Germany and France relatively untouched.

But you are exactly correct that the E.U. entry rules set the stage for off-balance-sheet finance. By arbitraging this rule, by keeping funding off-balance-sheet, they could stay within the debt limits, at least based upon the formula, but not in any real economic way.

And that is a very, very important lesson that I want to point out here that happened in the United States with securitization in commercial banks. And I really would like to stress to the committee to see how that application is very robust to a number of different rules, even some rules that may be considered today in financial reform.

Chairman KANJORSKI. Thank you very much.

Yes, Mr. Johnson?

Mr. JOHNSON. Characteristically, when officials are doing a workout, the rule of thumb is to do too much rather than too little, in other words, to get ahead of the curve and do something so profound in restructuring that you essentially what you might call stop all of the emotion that leads to contagion in its tracks. You stop people from drawing inference about propagation.

What is particularly difficult about this situation once it has taken place, and Professor Duffie mentioned this, is the free rider problem, which is at this point Greece knows that it is not just its own fate that is in its hands. Greece knows that it can take Italy, Portugal, and possibly the whole Euro structure down with it. And

their incentives in bargaining now reflect more than their own fate. They think they have more leverage than if it was just an isolated country.

So at some level, doing something that would, how should I say, not call Greece's bluff, but would acknowledge that they are going to perceive those side effects require a bigger offering from the other side of the table. Right now, Germany doesn't want to offer that. And they have a traditional concern about inflation in their past, and they don't want to do that right before an election when their population is not necessarily that fond of the Euro anyway.

But the basic concept is you have to do more than you think is necessary in order to quell those anxieties once it takes place.

Mr. PICKEL. Mr. Chairman, if I could just return to your first question. I think it's important to understand the nature of these contracts as they are sovereign CDS versus corporate CDS.

In a corporate CDS, the triggering events for a settlement are typically bankruptcy and failure to pay. For a sovereign CDS, the relevant events that would trigger a settlement of the credit default swap would typically be restructuring or a moratorium or repudiation of debt.

And so, it is certainly true that participants in the credit default swap market are watching the current discussions very closely to see what the nature of the support from the IMF of the Euro might be because it could in fact be those events that might trigger a credit event under the contract.

Because countries don't go bankrupt. Countries always have the ability to tax. But they may restructure their debt or they may miss a payment, and that would trigger a settlement.

Chairman KANJORSKI. Thank you, Mr. Pickel.

I am now going to recognize the gentleman from New Jersey, Mr. Garrett, for 5 minutes. And may I request Mrs. Maloney to take the chair?

Mr. GARRETT. I thank the Chair, and again thank the witnesses. And I guess my opening thoughts and comments were that this committee and this title, "Credit Default Swaps and Government Debt," could involve itself into a bunch of different areas.

I guess the first takeaway from this is, taking the lead from the chairman and also from Mr. Johnson's opening testimony, and everybody else right down the row, is that CDS were not the underlying cause of the problem that we see in Greece right now. So from that, then we can sort of explore and say, well, what should we learn from this experience?

Mr. Johnson, I know in your testimony you conclude, "The Greek crisis in sovereign debt—sort of saying what I just said—is not fundamentally caused by CDS. It is caused by a profile of spending and tax revenue, and a dynamic of government debt accumulation that is fundamentally unsustainable." And I mentioned in my remarks what Chairman Bernanke said, that here in this country we are not going to be able to grow our way out of it, which is some people's suggestion as to how we solve our problem.

So I would just be curious for your take on our problems here in this country is in order to avoid the situation that Greece sees themselves in. Is it like a lot of the experts who testify over in the budget committee hearing, that our first and fundamental area

that we need to address is the entitlement spending in this country, and somehow or other we have to rein that in, and that is our Greek problem, if you will?

Mr. JOHNSON. You are calling me back to the days when I was a staffer on the Republican Senate Budget Committee under Pete Domenici, so I will have to dust off those memories.

What I would say is that there are many tools that reflect social priorities, and that the United States, after this financial crisis and definitely if we had a recurrence, would be reaching what Congressman Hensarling talked about, the red zone, which Ken Rogoff and Carmen Reinhart talk about as a debt-to-GDP ratio approaching 90 percent.

I do think that structural reforms have to be made. Whether those structural reforms take the form of further health care legislation that reduces the price of care, or whether it involves entitlement reform in terms of the extent or quality of care, whether it involves taxation, or whether it involves the military budget, any of those things logistically fit into the what you call menu, theoretical menu, of tradeoffs that one could invoke.

It is really a question of social preferences as to how you get there. And I do believe that we face that challenge. We have to define those preferences.

Mr. GARRETT. And then turning to Mr. Duffie, I noted your one comment, and then there was like a pregnant pause after it, and I don't know if it was intended or not, saying that speculation did not force the excessive borrowing, or spending first and then borrowing by Greece.

Do you have any other comment to follow up, after your pregnant pause?

Mr. DUFFIE. I would like to address the issue of whether speculation has any benefits at all. And one of the ones that has been mentioned by all of the panelists, I believe, which is that it provides an early warning system to the market. I think that has been quite helpful in this case. It has caused people to dig into the true financial condition of Greece, as Professor Mason suggested.

Another benefit of speculation is that when someone needs to lay off some risk, they have to find someone to take it on, and speculators will usually do that in return for an expected profit. If we didn't allow them to participate in this market, it would be harder for investors to either exit their positions or hedge their positions.

So I would encourage regulators generally not to clamp down on speculation, but to clamp down on manipulation, which is a different aspect.

Mr. GARRETT. One last question. My time is coming up here. Mr. Sanders and others alluded to the fact that a lot of this that happened in Greece, the triggering was the finding of new information, the $40 billion, or what-have-you. I have legislation in to say that we want to make sure that all of our information in this country is clear and transparent, and to say that all of our debt should be apparent to the public.

I would think it is apparent, but I think the clearer way is to put it on the budget. Is there any reason why that would not be a legitimate avenue for Congress to go down and say, all of our

GSE debt, if it is really sovereign debt or whatever the Treasury Secretary says it is, should not be transparent and on our budget?

Mr. DUFFIE. I think that is correct. I think Supreme Court Justice Brandeis at one point said, "Sunlight is the best disinfectant." And I think that is exactly what is needed, as much transparency as possible.

Mr. GARRETT. Let's flip it around. Does anybody disagree with that?

Mr. SANDERS. I agree completely with that statement. I think it really should be brought on it because we do want to avoid another Greek surprise. And if we leave it off, it just begs for another surprise in the market that is a negative.

Mr. GARRETT. And Mr. Mason, it looks like you—

Mr. MASON. I also agree that we need to be clear about our own off-balance-sheet exposures, so to speak. But we also need to pay attention to the resolution of the consumer problems in today's marketplace in terms of what we have talked about in restructuring in the Greek context.

If you think about a restructuring for today's consumers, by offering the modification and therefore taking a loss on the secured debt, while leaving the unsecured debt of the consumer intact, we have actually violated an absolute priority rule in the restructuring of the consumer in a way that has confused and shocked markets.

And in the restructuring, we do need to be very careful to communicate directly to investors, previous investors, what they are liable to get even after loans from the outside come in to bail out the—

Mr. GARRETT. And just so I understand what you just said, that means that all the work that we do as far as restructuring on the secured debt, which is mortgages and all those programs, we have to be careful of the implications on what that does as far as the unsecured debt and going forward as far as whether lenders want to engage themselves in that activity?

Mr. MASON. We have seen that directly by modifying first lien mortgages before second lien mortgages, and of course the second lien holder was able to avoid a loss where they would have otherwise, according to the rules of the game, taken a loss. It has been confused.

Mr. GARRETT. Right. Thanks. I appreciate the clarification.

Mrs. MALONEY. [presiding] Thank you. The Chair recognizes herself for 5 minutes.

The first time CDSs came to national spotlight and attention was during the AIG crisis. And I would like to ask the panelists, starting with Mr. Johnson and going down, if anyone would like to comment on it.

What would have been necessary to avoid the AIG bailout in terms of CDS reform?

Mr. JOHNSON. Would you like me to start?

Mrs. MALONEY. Yes. You start, and then Mr. Pickel and Mr. Duffie, if you would like to comment.

Mr. JOHNSON. I think there are a couple of things that come to mind, the first of which is the way in which premium income is booked by those who wrote CDS during that period, allowed them to book it as income and not have set-aside or loss provisioning,

whereby—how do I say it—they built a war chest or a contingency fund in the event that they had to pay out.

But I want to be a little bit careful about that. CDS is an unusual contract. It is not as if there is a stream of payments that when the event is triggered, the insurer just assumes a stream of payments. They actually have to deliver on the whole loss for the outstanding bond.

And you go from collecting a premium, which is a flow each year, to having a huge liquidity demand on as the writer. And obviously, when we had a giant storm like that, it is not clear to me that even a well-provisioned system would have withstood that shock.

The second dimension, I think, is that a systemic risk regulator needs to understand the distribution of exposures, ex ante, and they need to have a very clear sense of that pattern of exposures because when they are called upon to resolve any impaired institution, they may be triggering an event that is not necessarily emanating from the balance sheet of that institution.

If one bank fails, two other banks may have transferred risk on the CDS on the failing bank. And unless there is a unified awareness of that exposure map, by taking action, putting the failing bank into receivership, you may drag somebody else over the wall with you and lead to contagion.

Understanding those consequences will make it much easier for the resolution authorities. So that information system, I think, is very important.

Mrs. MALONEY. Mr. Pickel, would you—

Mr. PICKEL. I think it is important to understand the differences between the nature of the transactions done by AIG and the transactions that are the focus of this hearing, the sovereign CDS or even the corporate CDS. Those credit default swaps were written on super-senior tranches of CDOs which had exposure to underlying real estate risk.

And in fact, those were—there is all this discussion about naked credit default swaps or situations where you actually have the underlying risk. The people who bought that protection from AIG actually had the underlying risk. So those would be—even if you wanted to ban naked credit default swaps, those could still be done.

I think it is also a function of the fact that the AIG individuals who were involved in these transactions didn't have a full understanding of the nature of the risks. They were looking at the potential for them to have to pay out. They did not take into account the mark-to-market risks that they had.

It was compounded by a reliance on AAA ratings and refusing to provide collateral. Collateral is a very important tool in the OTC business, widely used, and it provides not just credit protection, but provides indications as to the exposure that you have under your underlying positions that you can adjust to. They compounded that by agreeing to downgrade provisions so that at the very worst time, when they lost their AAA rating, they had to come out with massive amounts of collateral because of the mark-to-market exposures.

So I think you need to have the information that Mr. Johnson refers to. Clearing wouldn't help in that situation, but greater utilization of collateral in those transactions would be quite helpful.

Mrs. MALONEY. Would anyone else like to comment? Mr. Duffie and Mr. Mason, and then my time is up.

Mr. DUFFIE. Briefly, there are four measures in the legislation that your committee has proposed to reform the financial system that address this.

First of all, the supervision by the Federal Reserve of systemically important financial institutions would include a firm like AIG. Hopefully, they would do a much better job than the Office of Thrift Supervision actually did at the time.

Second, the legislation proposes a new method for resolution of systemically important financial institutions, and that would allow AIG to be taken apart without necessarily a lot of collateral damage.

Third, data repositories are in the new derivatives legislation. This would provide regulators with the opportunity to see how much credit default swaps AIG would have held.

And then finally, as Mr. Pickel said, the new legislation will require substantial amounts of additional collateral, and that will also improve the situation.

Mrs. MALONEY. And Mr. Mason, and then my time is up.

Mr. MASON. Thank you. I would like to emphasize Mr. Johnson's remark about information, but also take it a slightly different direction. The information that we needed to understand AIG's exposures was there. DTCC had it. We just needed to think to ask them.

After my own experience in the bank regulatory agencies, it has been amazing to me that bank regulators would not ask outside of banks for additional market information or even information about direct bank exposures, whether it is CDS or off-balance-sheet securitized entities.

To me, that is the important element that can be solved fairly simply in financial reform. Instead, financial reform, as currently drafted, is asking for the entire trading book of every systemically important institution, which is information overload. Any attorney knows if you want to fight off an attack, you either withhold information or you give them too much to digest.

That would be far too much to digest, and I think the best starting point is to allow bank regulators and other Federal regulators access to information sources, common on Wall Street, that they cannot afford right now, and sometimes even, because they are not a qualified institutional buyer, cannot even legally access. That would give the greatest bang for the buck, so to speak, of the legislation. Thank you.

Mrs. MALONEY. Thank you. Mr. Bachus is recognized for 5 minutes.

Mr. BACHUS. Thank you. First, I want to say that your testimony, which arrived yesterday afternoon, our staff reads that, and they refer that to us—not always; they will recommend that we read it or not. And we then will review some of it or look at it or use it.

And I want to say the staff and I both want to compliment you on your testimony. We found that it was very insightful in all cases, and did what it is supposed to do. So if you had a Member who stepped out during your testimony, he probably read it or will

read it, and he certainly had a staffer that highlighted certain things to him. So I commend you on that.

Mr. Duffie, let me start with you. Credit default swap spreads, I think, are a reflection of Greece's economic condition. I know the Greek government's difficulty refinancing its debt is a direct result of not the CDS—sovereign CDS market, but of legitimate concerns about its financial health.

Would those concerns—or let me say this: Is it correct to say that the sovereign CDS market alerted us to the problem the Greeks had, as opposed to contributed to it? Many people have blamed it on the sovereign CDS market, or part of that. But what is your view?

Mr. DUFFIE. Based on the statistical evidence, that is certainly my conclusion, Mr. Bachus.

Mr. BACHUS. That—

Mr. DUFFIE. That the CDS market, rather than causing Greece to have borrowed too much money or to be currently in a debt crisis, it actually alerted investors that Greece would have borrowing problems.

Mr. BACHUS. Right. And it served a very useful purpose in that I think it caused people to confront the problem.

Mr. DUFFIE. Yes. It provided both an early warning system, and of course, for those who needed to get rid of some of their risk, it provided a way for them to transfer it to others.

Mr. BACHUS. Right. I appreciate that.

Mr. Sanders, the Federal debt stands at $8 trillion, and GSE debt stands at an additional $8 trillion. That represents 110 percent of our GDP. What are the implications of an unsustainable debt load? And actually, Chairman Bernanke said that our debt projected was unsustainable.

Mr. SANDERS. Actually, the Federal debt load is over $12 trillion. It is just that $8 trillion of it is public debt. And of the GSEs, the guarantees are a large part of that $8 trillion. There is a lesser amount, which is a little less than 50 percent, is the GSE corporate debt. But it still amounts to a large chunk of GDP, and this is before all the real massive entitlement programs, etc., kick in.

And then once we hit that, I think the unfunded liabilities, depending on the source of it, can be upwards of $110 trillion and growing. We are at $8 trillion plus GSE debt plus, remember, my good friend Joe has always talked about the off-balance-sheet issue. I wrote a paper a few ago called, "Banks: The Next Enron," warning that off-balance-sheet financing is devastating unless you put it on the balance sheet.

And for the government, it is especially true. We have pension programs which are currently off balance sheet that, like Wall Street, are only recognized if there is a loss. And really, we have to end that. We have to bring it all on balance sheet so, as Professor Duffie—according to Justice Brandeis, sunlight is a great thing. We should have all this stuff visible because it is unsustainable.

And as I quoted in my paper, presentation, I said that 2 percent of United States households have $250,000 or more of income. But if they are bearing the brunt of all these entitlement programs and war spending—let's just say all spending—and we add these up,

that ends up being that each household that makes $250,000 or more is responsible for $47 million per household.

Now, I would call that unsustainable. And it also scares the living heck out of me, too.

Mr. BACHUS. I appreciate that. I also appreciate that Chairman Frank and Congresswoman Maloney and Subcommittee Chairman Kanjorski selected our witnesses. They did a good job this time. Thank you.

Mrs. MALONEY. Mr. Sherman?

Mr. SHERMAN. Thank you. Mr. Sanders, just a comment, and that is you seem to be focusing on income taxpayers rather than Social Security taxpayers. People earning much less than $250,000 are paying the bulk of that Social Security tax. And if you are talking about who is going to pay for the entitlements, it is chiefly those who are paying Social Security tax.

One could design a society where the greatest rewards went to science and engineering. But we pay the largest salaries to those who study under Mr. Duffie and go into Wall Street. And that is justified on the theory that capital allocation is very important.

But the question is whether Wall Street is engaged in capital allocation or just naked betting. Gambling is usually thought to serve no particular social purpose, and if anything, imposes social costs. George Soros a couple of days ago, in commenting on synthetic CDOs, but this also applies to naked CDSs, said that they serve no social purpose and build up the amount of debt, thus creating a larger crash when the crash occurs.

What social benefit, Mr. Johnson, occurs from those who bet on Greek currency for no good reason, nothing to do with their regular business, just because they think they are smarter than the market and they can guess whether it is going to go up or down?

Mr. JOHNSON. I have to refer to the distant past in my resume before answering you, just to be very clear. I used to be—

Mr. SHERMAN. I have limited time. Please answer my question. I will learn about your resume later.

Mr. JOHNSON. I used to be George Soros's partner and a currency speculator in the early 1990's, and I just want to preface with that.

I believe that there are times when price systems get out of balance. You referred to the excessive incentive to allocate our best talent to Wall Street, probably because we had a lot of embedded subsidies in the system that blew up a year or so ago that made Wall Street firms excessively profitable, and they could pass their risk off onto the taxpayers.

That is being corrected now, and I don't expect Wall Street to draw quite as much talent as in the past. I don't think that gambling on currencies for its own sake, as an action, has much redeeming quality. But I would say that when a price system reequilibrates, a society gets back on track sooner.

Greece right now is—how do we say—harming future generations, and the price pressure coming to a head, and violent, may represent those future generations.

Mr. SHERMAN. Reclaiming my time, one issue that comes before us is whether we should impose any fees or taxes on the casinos on Wall Street. I would point out that every other town in America where they have a casino, there is a tax. And at least then, there

is some social benefit that accrues from allowing the gambling activity to occur.

My next question relates to why California is facing a valuation of its debt below that is Kazakhstan, Croatia, Brazil, Bulgaria, and even Thailand—at least, I haven't checked Thailand recently; they have some problems there—where you have to pay 200 basis points for insurance. That is only 3 times what you pay on Greece.

My reason is not just that the California economy is many score, or at least 20 times, that of Greece—at least many times that of Greece. The debt in California is considerably less. But also, as a matter of law, if California doesn't pay, courts will step in and divert revenue streams of California to pay the bondholders.

In contrast, when a sovereign, a true sovereign, goes bankrupt, an independent country, they can simply disclaim their debt, declare it void, and there is—100 years ago, we would send in the Marines to Haiti and collect their revenue and give it to the creditors. But since those days, it seems to be in the interest, the short-term interest of Greece, at least, to repudiate its debt. They make $300 billion in one day.

So why is the cost of insuring Greek debt, where the Greeks can make over $100,000 per family of 4 in 1 day with no court able to enforce the debt—why is that in the same ballpark, even, as the cost of insuring California debt, where if California doesn't pay, a court comes in, takes our income tax and sales tax revenue, and makes sure that large chunks of it go to the debt holders? I am looking for—Mr. Pickel, do you have an answer?

Mr. PICKEL. Yes. I will try to respond to that.

You are right that repudiation is certainly an option for a sovereign, and that would trigger the settlement of the credit default swaps. That is an event that would trigger for Greece or a country.

Mr. SHERMAN. And what would Greece lose if it renounced its debt? We see what it gains. It gains $300 billion. It loses the ability to borrow.

Mr. PICKEL. Right.

Mr. SHERMAN. But on a cash flow basis, if your debt service exceeds your borrowing—first of all, I don't know anybody other than the IMF and the European Union who is going to loan any money to Greece.

Mr. PICKEL. Right.

Mr. SHERMAN. But even if they could, they are going to borrow less than their debt service. So why isn't Greece defaulting? It is a $300 billion payday.

Mr. PICKEL. I will maybe defer to some of the economists on the panel. But I think that there is that reputational issue of being able at some time in the future ever to get back into the capital markets to borrow in the future. So that is certainly a concern.

Mr. SHERMAN. Let me turn to one of the economists quickly. If Greece honors its debt, nobody is going to want to lend them money for 2 or 3 years anyway. And if they dishonor their debt, in a decade, people will be loaning them money again. So, Mr. Duffie, why don't they just renounce?

Mr. DUFFIE. I think there is—

Mrs. MALONEY. The gentleman's time is up.

Mr. SHERMAN. I will ask you to answer the question, please.

Mrs. MALONEY. Answer the question.

Mr. DUFFIE. I think there is a significant probability that Greece will default on its debt for exactly the reasons that you suggested, although, as Mr. Pickel suggested, it is costly to do that because in the future, Greece may need to borrow again.

Mrs. MALONEY. Thank you. Mr. Neugebauer?

Mr. NEUGEBAUER. Thank you, Madam Chairwoman.

I would like to kind of continue down that same line of the discussion because—and I think it was Mr. Johnson who said that the whole European Union is somewhat in a fragile position right now. And I referred to it yesterday as kind of a house of cards, and that two or three of these cards fall and it puts an extreme amount of pressure on the E.U.

Probably the United States is the beneficiary of that right now because people are—that is probably what is giving the Treasury Secretary the ability to keep borrowing money and dollars to support these huge deficits.

But I think the question I have for the panel is if this begins to happen in Europe and we have some defaults—Japan is not in just the best of shape itself. A lot of people don't—that is not on their radar scope. The Chinese have said on a number of occasions that they are kind of like my banker back home. They are getting a little nervous.

So what is the implication of us continuing these deficits, and then we have some fairly major defaults, or potential defaults, in the E.U., and what does that do to the United States? I would get concerned at some point in time here we are going to have an auction or two fail here just because, one, there may not be enough money in the economy to sustain all of these credit needs; but secondly, just the nervousness of when countries start to default, what that does—how people are looking at our debt as well.

So Mr. Johnson, do you want to start? And just go down the—

Mr. JOHNSON. I think currency and international investing is always the business of assessing the lesser of relative evils. And at this point, the acute anxiety and the new information that pertains to Europe is actually encouraging funds to so-called flight to quality to the United States.

The dollar is likely to strengthen. Given our trade deficit, the import-competing industries and export industries will receive a negative incentive in terms of the expansion they would like to undertake.

In the longer term, I think you point to a heightened anxiety about sovereign debt and what we might call a renewed scrutiny or skepticism, and people will be very concerned about our debt dynamics, though as a snapshot at the moment, I think the first effect, the lesser of evils, is the dominant influence. In the medium term, it may make it more difficult to sustain deficit spending.

Mr. NEUGEBAUER. Thank you. Mr. Pickel?

Mr. PICKEL. Yes. I think there are those two effects that Mr. Johnson refers to, the "beneficial one" of a flight to quality and lower rates on U.S. debt and a stronger dollar. But that, of course, has implications for the economy longer term competing against a weaker Europe.

Mr. NEUGEBAUER. Mr. Duffie?

Mr. DUFFIE. The United States depends heavily on the ability to export to these countries. And even though there is a flight to quality effect that temporarily benefits our currency and our bond markets, and even though our bonds are very, very, very strong and the United States has, despite its heavy debt load, extremely large abilities to borrow more, it can't help the United States to have our neighbor countries in Europe and Japan become economically weaker or even default. That is definitely bad for us.

Mr. SANDERS. One thing we haven't discussed so far is that Greece may default. But they also may become a zombie state, in which they have the IMF and other countries loaning them money just to perpetuate them. They will have no incentive to actually cut spending. They will just exist on the dole from the international market.

The problem is that we can probably do that for one country. But then as they all start to fall, it is going to get incredibly more expensive around the globe to keep propping up zombie states. Japan already is in that state. Their banks are—our top banks are almost zombie banks at this point.

We have a lot of problems because we are not letting anyone go to bankruptcy, whether it is on a corporate level. Even countries can actually find out they have—I wouldn't call it extortion rights, but they can threaten to collapse the market and get more IMF money or more money and not ever do anything. So it is an outcome that might occur.

Mr. MASON. I would like to add—just make a separation between fundamentals and contagion here. There is not a lot of evidence for pure contagion in economics, where just I happen to fail, but I have no linkages with Mr. Sanders here, but because I fail, he fails. There are linkages there.

Now, economics is amoral, and markets are amoral, and they will root out those linkages. And that is one of the social benefits of secondary market trading. Primary market trading is about allocating capital. Secondary market trading is about rooting out inefficiencies, and secondary market traders will find those inefficiencies.

Countries that default will resume. Resumption is costly. The only country that hasn't resumed in anything near modern history that wasn't invaded was the Soviet Union, which still has—that is, not the Soviet Union, pre-Soviet Russia, I am sorry—which still has debt outstanding that trades at a half a cent on the dollar or so. But it does trade.

But really, the more important aspect that we have to deal with, not only with the U.S. sovereign situation but also with financial reform and consumer policy, is we have made a concerted effort to centralize losses from this credit crisis, from this bubble in real estate—which was a bubble, and it is not coming back, we don't want it back—and we have made a conscious decision to centralize those losses up to the sovereign entity.

And this kind of gets to where we started out today talking about CDS markets. Sovereign CDS markets are especially concentrated, and that concentration creates the systemic risk, the biggest risk out there.

So Greece has a lot of losses concentrated in its sovereign debt, particularly, mind you, through its overly generous pension allocations, which are far too—just far too—

Mrs. MALONEY. Would the gentleman sum up? The time has expired.

Mr. MASON. The point is, the GAO in 2006 already suggested a significant number of U.S. pensions are underfunded. Markets lost 40 percent since then, or more. We know the United States is in a similar situation. Let's see the linkages for what they are.

Mrs. MALONEY. Congressman Lynch?

Mr. LYNCH. Thank you, Madam Chairwoman, and I want to thank the witnesses. This has been very helpful.

Now, Mr. Johnson, I appreciate your statement that in the Greek cases, credit default swaps is probably just a smaller portion of the problem, and that Wall Street didn't create their crisis. However, in some ways I think we may have—Wall Street may have exacerbated it.

But now I am wondering about not just the credit default swaps that Goldman and others might have sold to the Greek government. I am also worried about what they sold to Spain, what they sold to Portugal, what they sold to Ireland, because as others have pointed out, the E.U. as a group is our largest trading partner. And if we start seeing defaults here, that will have a tremendous impact on our economy from an import/export standpoint.

And also, we sort of talk like the IMF, like they have their own money. But we are a major contributor to the IMF. So that is—the IMF is us, is the American taxpayer as well.

And I guess one of the most troubling aspects of the credit default swap practice in Europe, and even with our own municipalities and pension funds, is the concealment aspect of this, and that these deals, off balance sheet, allowed Greece to conceal debt that was there. It allowed them to conceal the fact that certain major aspects in their country were encumbered.

Airports: They actually pledged future revenues from their airport to cover the collateral on the debt to Goldman. And also, they pledged—they have a national lottery. They took their lottery proceeds from the next 10 or 12 years, or 20 years, and pledged that as well. But an innocent person coming in would not know about that. It was all hidden.

And let me get to my question. Is there not a greater obligation here, when this is sovereign debt or when you are dealing with a municipality, where behind that deal stands the full faith and credit of the taxpayer? We are picking up the tab, just like a lot of this debt in Greece—all of it, all the sovereign debt—is really being put on the taxpayer. But they are completely ignorant of what is going on here.

It is the same with the debt associated with the pension funds and municipalities. Those pensioners, those current and future retirees, are completely ignorant of what is going on here. And the same thing with deals entered into by municipalities. These are being made without the knowledge of the townspeople, the residents, the taxpayers, who are standing behind these deals.

I just wonder, is there not an obligation for us, when parties enter into these deals and the taxpayer is behind them, should we

not require the parties, the people who assemble the credit default swaps, the people who market them, the people who trade them, to all—and the people who underwrite them—to all assume a fiduciary responsibility to the people who are standing behind that debt?

It just seems that at least in the public dimension, it is something we should require. We could talk about private parties later on. But I think there is a special exposure here that we haven't really acknowledged.

And I just wonder, should we require a greater obligation, this fiduciary duty, for these parties that are dealing with public debt? Mr. Johnson?

Mr. JOHNSON. You raise a whole series of issues. One thing I want to clarify is, I don't think it was the credit default swap that created the deception about Greece's indebtedness or deficit which allowed them to get into the European Union. But it was a derivative transaction—

Mr. LYNCH. Right. It was a currency—they fashioned it as a loan, so it went off balance sheet. But it was a structure—

Mr. JOHNSON. I just want to clarify that because we are talking about CDS today along with this problem.

Mr. LYNCH. Right.

Mr. JOHNSON. But it was a different dimension. I believe every aspect of the capital market, whether it is municipal, sovereign, or corporate depends upon accounting standards and disclosure standards so that we can properly value things. And in every dimension of that process, more integrity, more transparency, is imperative.

I alluded in my testimony that when you are talking about the needs of communities, when you are talking about basic services in life, which sometimes are financed by municipalities or State or Federal Government, it is very important to have those things, that integrity, in place.

One thing that concerns me a great deal now, as I am listening today, I can see coming over the horizon a tremendous concern about our Federal finances.

And I am concerned in the current legislation on derivatives about so-called end-user exemptions because when I have informally polled CFOs about why they are so attracted to playing in these OTC dark markets, some of what I pick up—I am not saying I have a smoking gun—is their earnings management and their ability to manage tax liabilities, not unlike the Greek government did with Goldman Sachs, is a risk in terms of the revenue-based tax collection and the future of our national finances.

Mr. LYNCH. I agree.

Mr. PICKEL. Mr. Lynch, if I could just comment on the fiduciary duty, these transactions—and I mention this in my remarks—are bilateral transactions. So if I am dealing with a government entity and I am paying them fixed, they are paying me floating, say, on an interest rate swap, we are in those transactions are principals. I am acting as a principal on the swap. They are acting as their principal on the swap.

They may be well-advised to get some advice as to whether that is a good transaction for them. But in that particular transaction, it is two parties interacting and making their own decisions as to

whether the transaction makes sense or not. That is the fundamental nature of these transactions.

There is a role for advice, and an advisor would have a fiduciary capacity. But in that particular transaction, it is I buy, you sell. I go long, you go short. I pay fixed, you pay floating.

Mr. LYNCH. Thank you. Thank you, Madam Chairwoman.

Mrs. MALONEY. Mr. Manzullo?

Mr. MANZULLO. Thank you, Madam Chairwoman.

I am sorry I came late. I have read through a good part of the testimony. One of the uses of derivatives in the credit default swaps occurs when a giant U.S. manufacturer such as John Deere—and their VP for finance testified here several months ago—that in exporting to a market, they will get involved in the CDS for the purpose of protecting the price of their machinery when it is sold.

Could somebody comment on that? First of all, do you agree with me on that?

Mr. DUFFIE. I will address that.

Mr. MANZULLO. Thank you.

Mr. DUFFIE. Yes, Mr. Manzullo. That is one of the primary uses of derivatives, for a corporation such as John Deere to lay off risks, such as currency risks or interest rate risks or commodity risks. They are very useful for that purpose.

Mr. MANZULLO. Could you walk us through? The reason I ask that is I spend most of my time on manufacturing, and I am from northern Illinois so it is a heavy industrial area. Most people in the country really do not understand the connection between manufacturers who export and the credit default swaps.

Could you walk us through a transaction of, say, John Deere selling a giant piece of equipment to Greece? How would they do to protect their price?

Mr. DUFFIE. Okay. So in this case, John Deere would be receiving Euros in return for its tractors. But it might not get them until next—the Euros might not come until next year.

So, being concerned about that, John Deere might enter, for example, with Morgan Stanley or Credit Suisse, an over-the-counter derivative security by which it would effectively sell the Euros now to that bank when they arrive next year at a price to be agreed now so that it wouldn't suffer the risk that those Euros would decline in value in the meantime.

Mr. MANZULLO. Why would they not get payment until next year?

Mr. DUFFIE. For example, they may have just signed a contract to deliver 1,000 tractors in return for 10 million Euros next year.

Mr. MANZULLO. Next year would be the date of the delivery?

Mr. DUFFIE. Correct.

Mr. MANZULLO. Okay. Mr. Pickel?

Mr. PICKEL. I was just going to add, from a credit default swap perspective, John Deere may have sold to, say, a Greek company those thousand tractors, and they may be concerned about the creditworthiness of that company a year down the road.

If it existed, if there was a credit default swap on that company, the most efficient way for them to hedge that credit exposure that they have would be to buy protection on that name.

But very likely—and I am not sure there are many Greek companies that you can buy protection on, so they might actually buy protection on Greek sovereign debt as a proxy for the fact that if there is a problem in Greece, it is going to affect the ability of that company to pay on that obligation, and therefore it is a proxy for that exposure that they have.

Mr. MANZULLO. Does anybody there have an idea as to the percentage of CDS that would be reflected by the manufacturers engaging in that activity? One percent, 10 percent of the total value? Anything?

Mr. PICKEL. It is a relatively small amount at this point.

Mr. MANZULLO. A small amount?

Mr. PICKEL. One percent is probably close. It certainly wouldn't be any more than 5 percent, I think. The CDS is largely, in the financial world, in terms of dealer kind of parties, hedge funds, asset managers, and others.

Mr. MANZULLO. Private companies. So what could John Deere do? The OPIC, Overseas Private Investment Corporation, I don't think guarantees against a currency collapse. It would by a seizure by coup or something like that. What would John Deere do in the—if they couldn't guarantee that they would get payment, if they couldn't use a derivative?

Mr. DUFFIE. They would have to take the risk. They would expose their shareholders to that risk. And the shareholders might themselves try to hedge it, but it would not be as efficient as having John Deere hedge it.

Mr. MANZULLO. We had a company back home, now out of business, that sold paper machines, paper-making machines to Indonesia several years ago. And their economy collapsed, and the American company went bankrupt.

What would the proposed restrictions on derivatives—how would that impact a company such as John Deere?

Mr. DUFFIE. I will take that briefly. Some of the proposed restrictions are to allow hedging but to eliminate speculation. The unfortunate issue is that if John Deere were to look for a hedging opportunity, most likely it would be provided by a speculator who would be willing to take that risk. So by eliminating speculation, you actually make it much harder to hedge.

Mr. MANZULLO. Anybody else?

Mr. JOHNSON. I think the—I would guess that all of us on the panel believe that there is a very important use for derivatives in this insurance-like feature, where the currencies, interest rates, and the full spectrum of market possibilities should be offered to someone like John Deere.

The question is more in what context should the market-making systems—how do you say—be set or structured because they do have collateral influences on the integrity of the financial system, propagation of financial disturbances, and impact on the taxpayer to the extent that the—

Mrs. MALONEY. The gentleman's time has expired. If you would wind up, Mr. Johnson. Are you—the gentleman's time is expired.

Mr. Perlmutter? Mr. Foster?

Mr. FOSTER. Thank you, and I would like to thank the witnesses for their excellent testimony. And I share their conclusions that the

CDS on Greek debts, amounting to less than 2 percent of their outstanding debt, cannot be a major contributor to Greece's woes.

I also share with my colleagues on the right their sincere regret that we did not leave in place the fiscally responsible policies prior to the Bush Administration which, as we all know, would have paid down the debt essentially to zero at this point had we left them in place.

I am happy also to see them embrace the concept that we cannot grow out way out of this since this was, after all, the philosophy that they used to justify the fiscally irresponsible policies that got us into this mess. Perhaps, given the $17.5 trillion of household net worth destroyed in the last 18 months of the previous Administration, they believe that we can shrink our way out of this crisis. But I digress.

What I would like to raise is the limits to the concept of an insurable interest, as we have chosen not to apply it to derivatives markets. As you all know, we do not allow people to take out fire insurance on their neighbor's house, at least in part because that provides an incentive to firebomb their neighbor's house. And we have chosen not to apply that principle to derivatives markets.

And so my question: Do you see any role at all for the principle of insurable interest in the derivatives markets? And I will open up to anyone that—

Mr. PICKEL. I think I will start off there. As I highlighted in my testimony, there are a lot of different risks or reasons for entering into credit default swaps beyond that actually holding the underlying bond at a loan. Sellers of protection may in turn want to hedge their exposure. You may have investors who have exposure to that particular country in the sovereign situation.

So I think the notion of what is an interest that might be insurable is a very broad concept. And certainly if you were to go down that path, you would have to recognize the diversity of those interests.

I think, as Mr. Duffie said, there is a role for speculators here. It provides liquidity to the market so that when somebody does need to hedge, they know that they have a deep, liquid market that they can turn to. I think those are some of the principal reasons for that.

I think it is also important to keep in mind that in a derivative situation, the exposures are mark-to-market. So if I have bought protection at a low price because the perception was that the credit—the reference entity was creditworthy, and they go down in their credit rating, I am going to see the price increase.

I will be in the money as the buyer of that protection. You will be out of the money as the seller of that protection. And we will typically exchange collateral—footnote: AIG didn't do that; that was one of the big problems—but in most of the situations, there would be collateral moving back and forth to protect that exposure.

And if either party defaulted, whether that is the buyer of protection or the seller of protection, they would have to make the other party whole for that fluctuation, unlike in insurance, where if I don't pay my premium, I just can't get the protection when I need it.

Mr. DUFFIE. Could I add to that? Ironically, there is a reverse concern on my part. If I, for example, were to lend money to Mr. Sanders and was responsible for making sure that he pays me back, I would need to monitor him and take care that he is going to pay me back.

If I were to turn to Mr. Johnson and buy protection from him on this loan so that I was no longer concerned about Mr. Sanders paying me back, there is a moral hazard. First, I won't be doing my job properly in monitoring Mr. Sanders' ability to pay me back. And secondly, poor Mr. Johnson is going to be bearing the risk that I won't be doing my job.

So it can be the case that exactly when I have an insurable interest, that the use of credit default swaps can lead to a problem. Disclosure is the way to deal with that problem. It should be disclosed to Mr. Johnson that I do have a loan to Mr. Sanders.

Mr. MASON. And I would like to follow up that the 2009 Fitch Global Derivatives Survey produced results that suggested most market participants are really not concerned with that type of misuse. It seems to be overblown outside the financial world.

I think the key is observability. And I think this gets back to an earlier issue of fiduciary responsibility. I think the appropriate fiduciary responsibility is to make sure that enough information is reported so that good decisions can be made.

Consider, maybe, I am a leader of a country. I am arming my army, getting ready to invade next door. And I want to take out a lot of CDS coverage on that, just like firebombing my neighbor's house. In the case of insurable interests in the standard kind of life insurance or fire insurance example, that would not be known to the outside world. That would not be known to the other side that is providing the contract that I am aggregating this coverage.

In the credit derivatives market that we envision developing and that is developing, we have significant reporting such that the information is available to the other side that has to provide the insurance on the contract. Once we see an aggregation of exposure, that risk can be priced in even if we don't know specifically what risk is there.

Mr. SANDERS. Mr. Foster—

Mrs. MALONEY. The gentleman's time has expired.

Mr. Perlmutter, and we have been called for two votes, gentlemen, so we will have to adjourn in a moment.

Mr. PERLMUTTER. Do you want me to go ahead?

Mrs. MALONEY. Yes. Go ahead.

Mr. PERLMUTTER. Somebody was going to finish the answer. So please, go ahead and finish.

Mr. SANDERS. Oh, well, thank you very much. I was just going to remark to Mr. Foster, I hear your point about the firebombing. I have been asked that numerous times. Bear in mind those are felonies and—

Mr. FOSTER. As is market manipulation.

Mr. SANDERS. Wait a minute—but again, that is one of the purposes of regulation, is to prevent felony-type transactions and to monitor and to look for those things, not necessarily to tie it up in knots. But that would be covered by proper regulation if it was oc-

curring in financial markets. But we don't really have any evidence that it happened with Greece.

Mr. PERLMUTTER. My question—and I appreciate the gentlemen from Illinois, Mr. Manzullo and Mr. Foster, sort of zeroing in on something—but mine is so much more basic, and it applies to a response.

What is the difference between hedging and speculating?

Mr. DUFFIE. Hedging means you are getting rid of risk. Speculating means you are taking on risk in order to make a profit.

Mr. PERLMUTTER. But you have to have—it is like you were saying, somebody is going long, somebody is going short; somebody is buying, somebody is selling. If you are going to hedge, you have to speculate. Right?

Mr. DUFFIE. In some cases, you can get lucky and the person who is hedging can find someone else who needs the hedge in the other direction. But that is somewhat unusual.

Mr. PERLMUTTER. One of you mentioned you might want to hedge against the Greek company from going broke next year, as opposed to hedging against some currency. But you are hedging against the Greek company going broke. I am not sure which one of you—

Mr. PICKEL. I think that was me, yes.

Mr. PERLMUTTER. And so in hedging against the Greek company going broke, John Deere goes and finds somebody who says, okay. We are going to do our due diligence, and we think this company is an upstanding company, and the chances are slim that it is going to go broke. Sure. We will provide you some insurance. Is that how that works?

Mr. PICKEL. Yes. They would go typically to a dealer, one of the large banks, and ask them to sell protection to John Deere to hedge that exposure.

Mr. PERLMUTTER. But, the bank supposedly does some due diligence, I would assume—

Mr. PICKEL. Yes.

Mr. PERLMUTTER. —to figure out how much insurance they are going to provide and at what cost.

Mr. PICKEL. Yes. The bank, if it is a global bank, may have relationships with that company in Greece. They may have exposure to Greece. So they are monitoring credit generally.

Mr. PERLMUTTER. Let's narrow it down even further. I am just trying to figure out how far the insurance extends. Let's say you are worried about the head of the company. He really is the guy who runs the show. Am I, in effect, buying—I am John Deere. I am worried about my distributor in Greece. Am I buying key man insurance on him? Can I go to Bank of America and buy insurance on the guy who is the head of the company? He might die next year?

Mr. PICKEL. No. I don't think that would be permissible. And I don't know what the insurance laws would be as to whether you would have a sufficient insurable interest in the CEO of major customer to purchase insurance on that person.

Mr. JOHNSON. Usually, that kind of key man clause is in a bilateral contract you make with the company, so if the CEO departs, the contract has to be adjusted or voided.

Mr. PERLMUTTER. When we start getting into this subject of derivatives and swaps, and who is covering whom and why, and what the risk is, and who is analyzing the risk, so long as there is somebody posting some margin or keeping some reserve someplace that I can find, or that every so often you see if the insurance is still good, then I am less concerned about it.

The AIG situation kept posting insurance, insurance, insurance, insurance, but never could cover. How do I find out if Bank of America has enough—what should I be looking for to make sure that the swap can be covered?

Mr. PICKEL. I think in these markets, in the OTC markets, it is collateral that is the significant portion. For the more liquid products, the more standardized products, clearing could provide a significant risk reduction. But in a situation like the AIG transactions, those were not capable of being cleared, weren't then and aren't now because of the customized nature of them.

But there it is even more important to have collateral so that as the exposure, the mark-to-market exposure, fluctuates, collateral is moving back and forth. And keep in mind, it could move from the buyer of protection to the seller of protection, or the seller to the buyer, depending on where that price—where that contract was struck, what the price was, and what the current market price is.

Mr. JOHNSON. There is a dimension to this that is fascinating that you raise, which is when you buy insurance from one company on the other company, you are getting rid of counterparty risk vis-a-vis the company you bought insurance on, and you are incurring it from the provider of insurance. So you do have to understand the financial integrity of the insurance provider in order to weigh the balance of those two risks.

Mrs. MALONEY. Congressman Himes?

Mr. HIMES. Thank you, Madam Chairwoman, and thank you to the witnesses for your excellent presentation today. I have a couple of questions.

First, you have spoken—basically sung from the same hymnbook with respect to whether, in fact, CDS contributed to Greece. Hypothetical, though.

What about—and this I offer to anybody, and just ask that it be answered quickly—what about situations that we saw, for example, in the subprime market, where you had CDS activity that in many instances was multiples of the value of the underlying asset? Would you encourage us to think differently in that situation than you have encouraged us to think with respect to this case?

Mr. PICKEL. I think the situation of multiples was typically the gross notional, which is the total amount of protection. What I think is relevant and I think what the chart here highlights is the net notional.

So in an active market, you have a lot of buyers and sellers, and overall, that market will reflect either a net short position or a net long position. And it is that—really, it is that number that should be focused on.

So I think if you focus in the subprime market or if you focus in the corporate market on net notional versus debt outstanding, you don't see those multiples to the same extent.

Mr. MASON. I think it is really important in regulation, especially in reg reform, to get to principles of regulation. And principles of regulation, especially for systemic risk, have to follow kind of principles of crowd control. You can't have regulators everywhere to monitor everything.

So you need to look for either non-fundamental movements or aggregations that would suggest there is something going on here. Securitization RMBS was one of the fastest-growing sectors in financial services. As a result, you might want to look there for something going on, including CDS and related technologies.

Similarly, with regard to infrastructure and other kinds of off-balance-sheet funding, if you look at hedge fund activities and you really talk to hedge fund investors, you find they have been involved in infrastructure deals for a while now. Why? Because it is a great way to provide secured funding to these undercapitalized countries, but avoid the country premium because you have the capital as long as, of course, property rights hold up.

So if you do follow financial markets, they are telling you the information that you need. But again, you can't be averse to the signals that you find because you may find things you don't like.

Mr. HIMES. Thank you. I have a question for Professor Sanders. Professor Sanders, you in your testimony drew an analogy between the GSE debt and the Greek surprise. You say our own sovereign debt has a Greek surprise component to it. This is something we hear talked a lot about lately, and I want to explore this a little bit.

The situation in Greece—correct me if I am wrong here—this Greek surprise came because, in fact, financial markets didn't understand the esoteric, technical, untransparent characteristic of some debt mechanisms that they had employed. Is that correct?

Mr. SANDERS. Actually, I would state it a little differently. I would state it that Greece, like many other countries, used heavy off balance sheet and didn't bring anything on balance sheet. That is why we couldn't observe—

Mr. HIMES. Right. But airport deals and foreign currency swaps designed to look like debt, this stuff was pretty untransparent.

My question is this: Markets don't like surprises; I get that. Is there any uncertainty or lack of transparency with respect to the amount, the tenor, or the characteristics of GSE debt right now in the minds of the market players who focus on this stuff?

Mr. SANDERS. First of all, once again, Greece could have solved the problem by bringing everything on balance sheet and making it transparent. But in terms of the GSEs, the answer is yes. We have absolutely no idea in the near future whether housing prices could take a big second dip and Freddie and Fannie are on the hook for billions and billions more. We just don't know. So—

Mr. HIMES. But there are—we don't know that about any security. We do have some sense, based on market values, what the value—some sense, with some uncertainty around it, what the market values are of the debt that the U.S. Government has effectively guaranteed. Okay.

So were we to all of a sudden move the GSE debt on balance sheet, there would be no incremental new information to the market. So my question to you is, if we took that step—which may or

may not be a good idea; I haven't thought a lot about it—but would you expect, if we simply took the step of moving that information onto the Federal budget, would you expect any change in the rate at which the United States Government funds? Would you expect any change in the willingness of the creditors of the United States Government to fund as a result, all other things being equal, of that accounting change?

Mr. SANDERS. Yes, sir, I do.

Mr. HIMES. Why?

Mr. SANDERS. And the reason for that is the same thing Secretary Geithner said at the last hearing I was at with him. Ambiguity is a very dangerous thing. The more ambiguous it is whether the government is going to bail out Fannie and Freddie or not—right now they said, it is not sovereign debt, but we are going to guarantee it.

But remember, go back years, Fannie and Freddie were denying they even had an implicit guarantee. And suddenly they said, oh, well, we do have an implicit guarantee.

Mr. HIMES. But now those guarantees—those guarantees are very explicit now, are they not?

Mr. SANDERS. Then why not bring them on balance sheet?

Mr. HIMES. Right, right, right. But my point is that the market understands that debt is fully guaranteed by the U.S. Government, for all practical purposes is, in fact, U.S. Government debt. So what I hear you arguing is that the simple accounting change of moving it on budget would somehow impact the market. That just confuses me.

Mr. SANDERS. Let me rephrase it to help out. I apologize if I wasn't clear. It still is ambiguous if it is off balance sheet. The market is never going to be convinced. How do we know that in 2 years, the Obama Administration or Treasury will not come back and say, "No, we have changed our mind. We are not going to guarantee this."

We don't know that. In fact, they have not made any permanent commitment to a bailout of Fannie and Freddie. So that is ambiguity. Once you bring it on balance sheet, mystery solved. We are on the hook for it. That is what I mean.

Mr. HIMES. I get it. Okay. I think I understand the distinction. So you are saying if we just, in a sense, permanently guaranteed it, which you are saying would be the effect of moving it onto the balance sheet, that would remove the ambiguity. Yes. I think I am out of time, but if the chairwoman would—

Mrs. MALONEY. Absolutely. This is an important point. Mr. Duffie, if you want to add to it?

Mr. DUFFIE. I just wanted to suggest that one could actually quantify the effect that you are describing. Right now, the United States Government, at the Treasury, borrows at a lower interest rate than do Fannie and Freddie.

If, in the event that the Fannie and Freddie debt were explicitly guaranteed by the government, the cost to the government of borrowing would rise to the blended average interest rate of the Treasury and the agencies, which would be a higher number, that is, our borrowing costs would go up.

Mr. HIMES. Are you sure that would happen, though? Because, then you would do away with the ambiguity. Right? That would become sovereign debt. And you are sure that it would rise to the blended rate rather than removing the ambiguity and therefore reducing the GSE debt to the U.S. rate?

Mr. DUFFIE. It is not a guarantee. But the United States indebtedness would rise as a result of the explicit guarantee. We know that because the agencies are borrowing at a higher interest rate. So it wouldn't necessarily rise all the way to the current blended average, but it would rise somewhat.

Mr. HIMES. Great. Thank you. I know I am out of time.

Mr. GARRETT. And through the Chair, since I think this is a great point that the gentleman just raised, the fact that—I think you made an interesting point. The fact that there is a difference right now in the borrowing rate between the Federal Government and the GSEs tells me that as far as the markets are concerned, they are still—probably had tuned into this hearing back when Chairman Bernanke was here, and he says he can't tell us whether they are sovereign debt or not. And they probably tuned into the other hearing when Secretary Geithner says that is an accounting decision; he really couldn't tell us, either.

So there must be that ambiguity out there. Otherwise—correct me if I am wrong—if there was no ambiguity at all, if the market said, GSEs, you are just like the Federal Government because it is all guaranteed until 2012, then the rates should be exactly the same. Right?

Mr. DUFFIE. Correct.

Mr. GARRETT. Okay. And also—one last question—and also, because the Secretary only has this authority until 2012, right, this unlimited authority, that is the other reason why we have ambiguity. Mr. Johnson, it sounds like you wanted to—

Mrs. MALONEY. The gentleman's time has expired. We have been called for a vote, so I would like to ask a question and get a yes or no answer. And you could write—get more questions in general.

Earlier, Mr. Johnson, you said that if AIG had cleared through a clearinghouse, it would not have removed the systemic risk or the challenge of that particular situation. In your opinion, is just having derivatives clear through a clearinghouse enough to remove systemic risk? Yes or no, would you say?

Mr. JOHNSON. No.

Mrs. MALONEY. No? Mr. Pickel?

Mr. PICKEL. I would say no. It goes a long way, but—

Mrs. MALONEY. Okay. It is a big part of our reform. That is why I am interested.

Mr. Duffie?

Mr. DUFFIE. It is a very good move, but it doesn't do it on its own.

Mrs. MALONEY. Mr. Sanders?

Mr. SANDERS. I agree. Plus, they will find another way to do it.

Mrs. MALONEY. Mr. Mason?

Mr. MASON. I agree. No.

Mrs. MALONEY. No? Okay. Now, if that is not going to remove systemic risk, how will we deal with the risk of the clearinghouse itself? Mr. Johnson, and go down the line.

Mr. JOHNSON. Very quickly, the question of clearinghouse, its capitalization, its collateral, and its integrity is very important. And one of the dangers is if you have multiple clearinghouses, there can be a competition in reducing margin, and it can create a systemic risk. So we have to be very careful about who defines and maintains the thresholds of capitalization at the clearinghouses.

Mrs. MALONEY. That is a very important point, and we will have a series of questions to all of you to respond in writing. Treasury is at the Senate today, and they likewise said they would respond in writing to any questions.

There was a lot of—

Mr. HIMES. Would the chairwoman yield for just a second?

Mrs. MALONEY. Yes.

Mr. HIMES. Sorry, just one follow-up question, because I am very interested in this point.

Quick question: If we, in fact, took the recommendation of some that we brought the GSE debt on balance sheet, is there agreement—because I sensed agreement—that would cause an uptick in the cost of financing of the United States Government? Does anybody think the answer is no?

[No response.]

Mr. HIMES. So everybody thinks the answer is yes. If we move this on balance sheet, the interest paid by the U.S. Government would rise. Correct?

Mr. JOHNSON. I don't necessarily agree with that. I don't think it would—it would cause a downtick in GSE financing, but—how would I say—what we are really talking about is the duration of guarantees. There is a guarantee through 2012. If you extend the duration of the guarantee, there probably is some minuscule sense in which—

Mrs. MALONEY. I would ask the gentleman to respond to the gentleman's question in writing, and I invite all my colleagues to.

I would like to ask, what are the worries you have about manipulation? There have been allegations about manipulation in Greece and in the American economy, in the sovereign markets and in city governments and State governments. Is there a concern about manipulation?

Mr. GARRETT. Will the panel be submitting this in writing, too, or are we going to a second round at this point?

Mrs. MALONEY. My time has expired. Okay.

Mr. GARRETT. It expired a couple of minutes ago.

Mrs. MALONEY. All right. Then submit it in writing. And the gentleman is recognized for 5 minutes. We have 15 minutes to get to the Floor. Okay? You have questions?

Mr. GARRETT. Then, we will just—I thought we were through the second round. Just clarification, then, on the differentiation on the interest rates that you were going to. Does anyone else want to speak on that as far as putting it online or not, differentiation? No?

Mr. SANDERS. Yes. What I would like to say is on the GSE debt, by making it unambiguous, meaning that it is on balance sheet, that might lower the GSE debt, the rate on that debt, to what it would be on the Federal. That is the good news. The bad news is

that it reveals that our actual debt loads are much bigger than we thought, which would then probably raise the cost of borrowing.

Mr. MASON. And the financial way to look at it is we are currently holding an option to take on this debt. And if we exercise the option, then we realize the value, we lose the option value. So we could estimate directly the amount.

Mr. GARRETT. Great. Would anyone else like to comment?

Mr. JOHNSON. I would just say the increment in the cost of the Treasury debt is dependent upon the change in your beliefs when the option is exercised. If you say for all intents and purposes it is full faith and credit now, by making it explicit and perpetual and blending it in the secondary market—and I think the Treasury market is slightly more liquid—you probably get most of the benefits and not a lot of cost.

But if you believe that there is a significant risk that in 2012 they would reverse course, you would have to say that bringing it on raises the cost of Treasury debt.

Mr. GARRETT. The bottom line is, I guess, the one thing we can learn from the Greek situation is no matter whether they are hiding it or not, or intentional or otherwise, I guess the thing the public wants most is to have that transparency, and for someone to make that decision and to carry forward so we know exactly what we are dealing with from today to 2012 and going into the future.

Thanks again to the entire panel. I commend the Majority for the panel selection, as the ranking member did, and I thank you all for your testimony today. Thanks.

Mrs. MALONEY. If I could go back to my other question, and get a yes or no answer, and then further follow-up in writing, are you worried about manipulation in the municipalities in our country and smaller sovereign markets with the credit default swaps and derivatives in general? Yes or no? Are you worried about manipulation?

Mr. JOHNSON. Yes.

Mrs. MALONEY. Mr. Pickel?

Mr. PICKEL. No.

Mrs. MALONEY. Mr. Duffie?

Mr. DUFFIE. I think it should be policed, but I don't see it right now.

Mrs. MALONEY. Mr. Sanders?

Mr. SANDERS. I am more worried about the manipulation by the governments themselves not reporting all the debt they have on balance sheet.

Mrs. MALONEY. Mr. Mason?

Mr. MASON. I am in agreement. I am not explicitly concerned from the investor side.

Mrs. MALONEY. Thank you. And who are the major sellers of CDSs in these sovereign, muni, and government credit derivative markets? Who are the major sellers? Can anyone tell us who they are?

Mr. JOHNSON. I believe it is primarily financial institutions, large financial institutions here and abroad.

Mr. PICKEL. Yes. It would be the large financial institutions. You may have some hedge funds which would sell protections, and that was true in the Greek situation. In the past, you would have had

the insurance companies, the monolines a little more active, potentially, in that area, but not now.

Mrs. MALONEY. What is the relationship between the CDS market and the underlying market? Which one leads which?

Mr. DUFFIE. In a large, liquid market, they are very close together. It is hard to tell. But in a market such as Greek debt, the CDS probably moves slightly first because it is somewhat more liquid and easily obtained.

Mrs. MALONEY. Mr. Johnson?

Mr. JOHNSON. Yes. I agree with that. I think, when we talk about the price discovery role of CDS, I often scratch my head because I look at bond spreads and I don't know what incremental information I get from the CDS.

But in the case of Greece, it is sometimes difficult for people to borrow in short bonds as speculators. And so the CDS market, being a lower transaction cost and more liquid medium, will tend to reflect that information sooner than will a bond that has what you might call hiccups with shorting.

Mrs. MALONEY. And following up on that, Mr. Johnson, how are prices set on instruments when the underlying has so few credit events or defaults?

Mr. JOHNSON. It is set with subjective probability. You are estimating what the likelihoods are. It is not like a deck of cards in the sense that you know there are 52 cards and you know what suit and what rank they are. It is a much more what economists call radical uncertainty, where you are trying to infer prospects that are unprecedented, or largely unprecedented, events.

Mrs. MALONEY. And Mr. Pickel and Mr. Duffie, how could a CDS or other credit derivative be used to keep a normal restructuring from happening for a firm in the real economy? Should we worry about this happening in the future, hindering the restructuring?

Mr. PICKEL. If I could just also add to that, the market assessment of the price of the CDS is essentially the market's assessment of the probability of default of the underlying entity and the recovery rate, potential, if there actually is a default. So those are kind of the factors in that.

As far as the influence on restructurings, there has been a lot of discussion. Henry Hu at the SEC has written about this. We think it is probably worth some additional analysis.

But our feeling—we have written a piece as an organization on this we can send to you—is that while superficially it suggests that somebody who has a CDS position may be motivated and incentivized in a different way when they are engaged in restructuring discussions, that has not really been proven in any particular instance. But it is something I think is worthy of some additional analysis.

Mrs. MALONEY. Thank you. And Mr. Duffie, could you respond to a statement by Federal Reserve Chairman Ben Bernanke at a recent JEC hearing where he said that the Fed had seen little exposure to Greek debt or CDSs within the financial institutions that he supervises here in the United States.

However, is it possible that U.S. financial institutions are vulnerable via their exposure to German or French banks, which are believed to have a large exposure to Greek debt and CDSs? I do know

that in many of our—some of our bailouts, we were bailing out counterparties in foreign countries. Do you see this as a challenge, for anybody to comment? My time has expired, and we are being called to a vote. But your comments?

Mr. DUFFIE. Sure. Some very large European banks are exposed to Greece significantly. I don't think there is a contagion effect for U.S. banks because the sovereigns of those large European banks—for example, in France and Germany—would protect those large banks from failing. They are still "too-big-to-fail."

Mrs. MALONEY. I want to thank all of your for your excellent testimony. The panelists have mentioned to me, the Members of Congress, that they have future questions. We will submit them in a bipartisan way, and hope that you can give us your best thoughts.

The Chair notes that some members may have additional questions for this panel, which they will submit in writing. And without objection, the hearing record will remain open for 30 days for members to submit their opening statements and questions.

The meeting is adjourned, and we are rushing to a vote. Thank you so much.

[Whereupon, at 12:27 p.m., the hearing was adjourned.]

A P P E N D I X

April 29, 2010

OPENING STATEMENT OF
CONGRESSMAN PAUL E. KANJORSKI

SUBCOMMITTEE ON CAPITAL MARKETS, INSURANCE, AND GOVERNMENT SPONSORED ENTERPRISES

HEARING ON CREDIT DEFAULT SWAPS ON GOVERNMENT DEBT: POTENTIAL IMPLICATIONS OF THE GREEK DEBT CRISIS

APRIL 29, 2010

Good morning. At the request of our colleague, Congresswoman Maloney, we gather today to examine important policy questions that have arisen from the Greek debt crisis. The crisis, which quietly evolved over a number of years, has demonstrated that innovative Wall Street bankers acting alone or in concert with their clients have the potential to destabilize not only a single country but an entire economic region, especially if the transactions they concoct distort transparency or heighten speculation.

Among other things, this hearing will allow us to explore whether the titans of Wall Street act as traders of government debt by underwriting bonds or traitors of governments by using credit default swaps to gamble that sovereign debt will fail. Those who bet on and seek to cause the default of a government are as bad as Benedict Arnold.

When used for genuine hedging purposes, credit default swaps are an appropriate financial tool. But when these instruments are used for speculation, they have the potential to become a Trojan horse that will insidiously infect our markets. Some very smart and sophisticated investors have characterized naked credit default swaps as "weapons of mass destruction" that can "create imaginary value out of thin air."

The tragic situation in Greece underscores the urgent need for Wall Street reform at home. Some recent news reports suggest that bankers crafted derivatives to hide Greek debt, and other stories note that the U.S. market for credit default swaps on municipal debt is growing. Congress must respond by creating more transparency in our derivatives markets as provided for in the House-passed bill. The derivatives bill recently approved by the Senate Agriculture Committee similarly advances the goal of greater disclosure.

Additionally, the response of the markets to the Greek debt crisis raises more questions about the utility of rating agencies. As we all know, the ratings agencies greatly contributed to our recent financial crisis by failing to appropriately rate collateralized debt obligations and other structured debt. The growth in the issuance of these faulty financial instruments, which the rating agencies blessed, contributed to the explosion of the credit default swap market.

While some have raised concerns, other experts have concluded that a large and liquid market for credit default swaps, including naked positions, leads the cash bond market in price discovery and predicting adverse credit events. If this is true, then I question why the rating agencies waited so long to downgrade Greece's debt. After all, the cost for purchasing credit default swaps on Greek debt has soared for many months, but Moody's and Standard and Poor's have only downgraded the country's bonds in recent days.

The reform bill already passed in the House takes strong steps to impose a liability standard on rating agencies and reduce conflicts of interest and market reliance on them. As we

proceed today, I look forward to understanding whether naked credit default swaps do indeed promote efficient price discovery and whether we should do more to reform rating agencies.

The Greek debt crisis also parallels a problem in our financial markets: the problem of too big to fail. Greece's problems have placed an enormous strain on the European debt markets and the European Monetary Union. In fact, the European Central Bank president has said that "a Greek default is out of the question."

With respect to our financial markets, the demise of Lehman Brothers, American International Group, and Washington Mutual, among many others, has shown that Congress must act to mitigate systemic risk. That is why the House-passed legislation and the pending Senate bill include provisions to end the era of too big to fail, like my amendment directing regulators to break up financial firms that have become too big, too interconnected, too concentrated or too risky.

In sum, today's hearing continues to build the case for financial services regulatory reform. More than two years have passed since the financial crisis began, and the Senate must take swift action on its bill so that we can finally end Wall Street's narcissistic pursuit of profit and change the way our financial markets operate.

United States House of Representatives

Subcommittee on Capital Markets, Insurance, and Government Sponsored Enterprises

Credit Default Swaps on Government Debt: Potential Implications of the Greek Debt Crisis

Hearing of April 29, 2010

Statement of Darrell Duffie
Professor of Finance, Graduate School of Business, Stanford University

Good morning Chairman Kanjorski, Ranking Member Garrett, and all members of the subcommittee. I am pleased to respond to your request to discuss credit default swaps on government debt, and the implications in particular for the Greek debt crisis and the Eurozone.

A credit default swap, or "CDS," is a derivative security. The buyer of protection pays an annual fee to the seller of protection, referencing a particular borrower such as Greece, and an amount of the borrower's debt. For example, if the agreed CDS rate is 5% and the amount of referenced debt is $100 million, then the annual protection fee is $5 million. In the event that the named borrower, say Greece, defaults on its debt, the seller of protection then gives the buyer of protection the difference between the referenced amount of debt and the market value of the defaulted debt. For example, if the referenced $100 million in debt defaults and as a result has a market value of only $30 million, then the buyer of protection would collect $70 million from the seller of protection. Credit default swaps are traded in the over-the-counter market.

As you know, some have raised concerns that speculation with credit default swaps is responsible for raising the borrowing costs of Greece, California, and other issuers of government debt. There is no evidence of this, and there

is good reason to believe that this is not the case. The net amounts of credit default swaps referencing these issuers is a small fraction of the amounts of their debt outstanding. Even if all of the CDS trading is purely speculative, there is just not enough of it to move the needle very much. Indeed, from research I am doing with Professor Zhipeng Zhang of Boston College, there is no significant empirical relationship between the amounts of credit default swaps held on these issuers and their borrowing costs. (Our preliminary empirical results are summarized in figures presented at the end of my written testimony.) The borrowing costs of these issuers, like those of most other issuers, are largely determined by the market's perception of their ability to pay back their debt, and the willingness of the market to bear the risk of default. If bond issuers have a lot of debt relative to their resources for paying down the debt, then investors demand a high interest rate in compensation for bearing the risk of default. Bond investors have recently demanded a high interest rate from Greece because Greece has a fiscal deficit of 13.6% of its GDP, according to Eurostat data,[1] and has relatively little ability to repay its debt without assistance. It is hard to imagine how CDS speculators were responsible for Greece's decision to borrow more money than it could pay back.

If an investor who has bought protection on $100 million of Greek sovereign bonds decides to reduce its position to $30 million, it would enter a new offsetting credit default swap, to *sell* protection on $70 million of Greek sovereign bonds. The net position of the investor is then $30 million. Since November 2008, the DTCC has published the market aggregate of the net positions of CDS investors. Figure 1 shows these aggregate-market net CDS positions for five Eurozone countries whose indebtedness has been of concern: Italy, Spain, Portugal, Greece, and Ireland. Although these aggregate CDS positions have grown somewhat over the past eighteen months, the growth has

[1] Eurostat has indicated the possibility of additional upward revisions of this estimate due to concerns over data quality.

not been especially volatile. Figure 2 shows, however, that the CDS rate for Greece has grown markedly in the past six months, in light of revelations about the true indebtedness of Greece, which had been obscured by reporting problems. The change in the CDS rate on Greek sovereign debt has served to alert investors that Greece may indeed have solvency concerns. Those CDS investors who first speculated that Greece had borrowed more than it could repay seem to have profited from this forecast. The recent decision of Greece to request special financing from Eurozone countries and the IMF was prompted by its difficulty in paying its debt. This external support for Greece does not, however, imply that Greece will avoid default. The CDS rate for Greece, a close proxy of its excess borrowing costs over those of Germany, has reached around 10% during the past few days.

Financial research has shown that sudden surges in demand for financial instruments, such as CDS, could temporarily raise the price of that instrument, if the surges in demand are large enough. Figure 4 shows that weekly increases in the net demand for CDS on Greece are relatively benign. Figure 5 shows that net CDS positions on Greece and other fiscally weak Eurozone sovereigns make up relatively small fractions of their outstanding debt. In any case, Professor Zhang and I have found no statistically significant relationship between weekly changes in net CDS positions and weekly changes in the CDS rates of Greece, Italy, Ireland, Portugal, or Spain. That is probably evident from the figures shown. (There is also no such relationship between changes in gross CDS positions and changes in the CDS rates of these countries.) Were such a statistical relationship to exist, it could reflect the increasing demands of hedgers for protection in the CDS market as the credit quality of the borrower deteriorates. Figure 10 shows that there is no relationship between aggregate net demand for CDS positions referencing California and the CDS rate for California.

The debt crisis faced by Greece has profound implications for other Eurozone countries. Eurozone governments issue debt in a common currency. If

one of them is unable to pay its own debts, other Eurozone countries have an incentive to come to the rescue in order to protect the stability of the Euro, on which they commonly depend. In the long run, however, there can be an erosion of the incentives of fiscally stronger Eurozone countries to support fiscally weaker Eurozone countries. Economists call this a "free-rider" problem. Each time a Eurozone country spends more than it can pay back, the fabric of the Eurozone is weakened. This is important to the United States because the stability of the Euro contributes to global economic growth and stability.

Regulations that severely restrict speculation in credit default swap markets could have the unintended consequences of reducing market liquidity, which raises trading execution costs for investors who are not speculating, and lowers the quality of information provided by credit default swap rates regarding the credit qualities of bond issuers. Regulations that severely restrict speculation in credit default swap markets could, as a result, increase sovereign borrowing costs somewhat. In any case, speculation could continue via short-selling of the underlying sovereign bonds, to the extent that the bond market is liquid.

Proposed reforms of the over-the-counter markets for credit default swaps and other derivatives will improve the safety and soundness of these markets. Data repositories will eventually give regulators the opportunity to police those who would manipulate these markets, or would take positions whose risks are too large with respect to the capital backing them. Central clearing, if done effectively, will also bring needed stability to this market. Transactions price reporting will add additional transparency and improve market efficiency.[2]

Thankyou for the opportunity to present my views. I would be happy to address any of your questions.

[2]See "Policy Perspectives on OTC Derivatives Market Infrastructure," by Darrell Duffie, Ada Li, and Theo Lubke, Federal Reserve Bank of New York Staff Report Number 424, Revised March 2010.

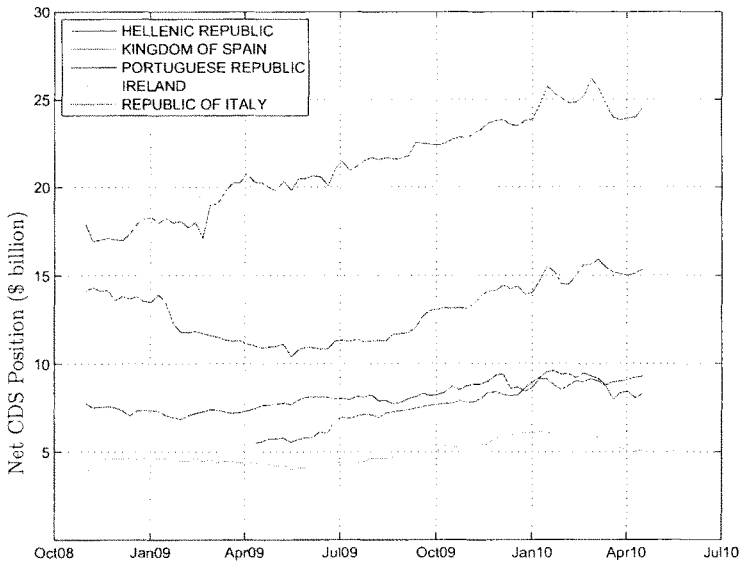

Figure 1: Aggregate net outstanding CDS positions referencing Greece, Spain, Portugal, and Ireland.

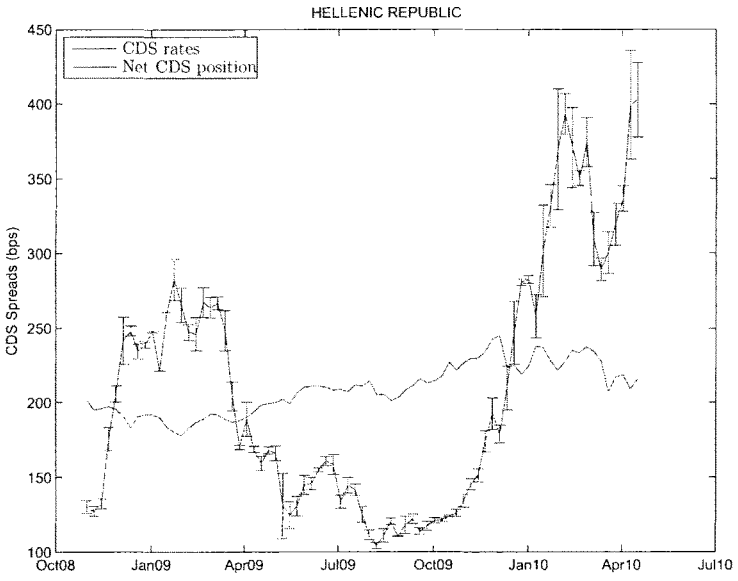

Figure 2: Aggregate net CDS positions on Greece (DTCC data), and the 5-year CDS rate on Greek sovereign debt (Bloomberg data).

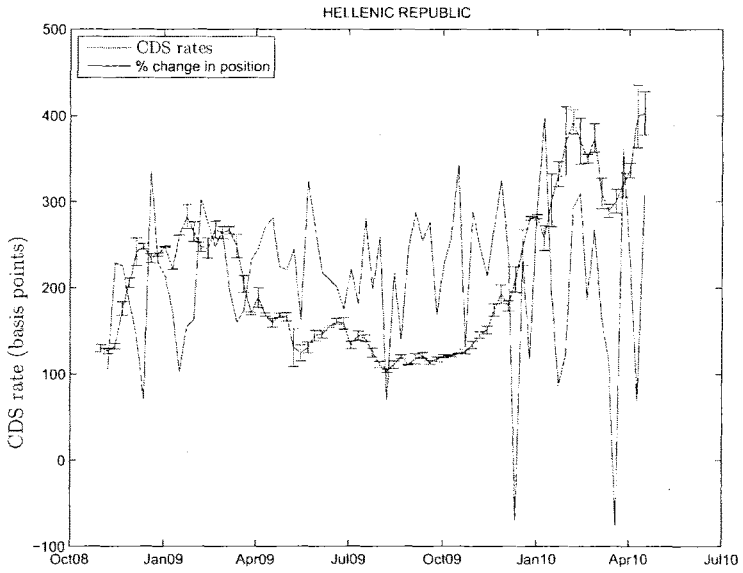

Figure 3: Percentage weekly changes in net CDS positions for Greece (DTCC data) and the 5-year CDS rate for Greece (Bloomberg data).

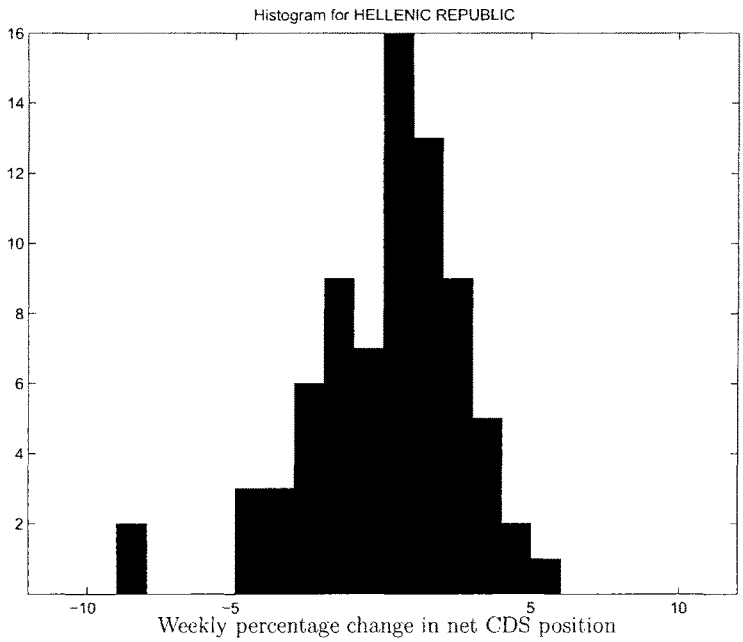

Figure 4: A histogram of percentage weekly changes in aggregate net CDS positions on Greece, November 2008 to present.

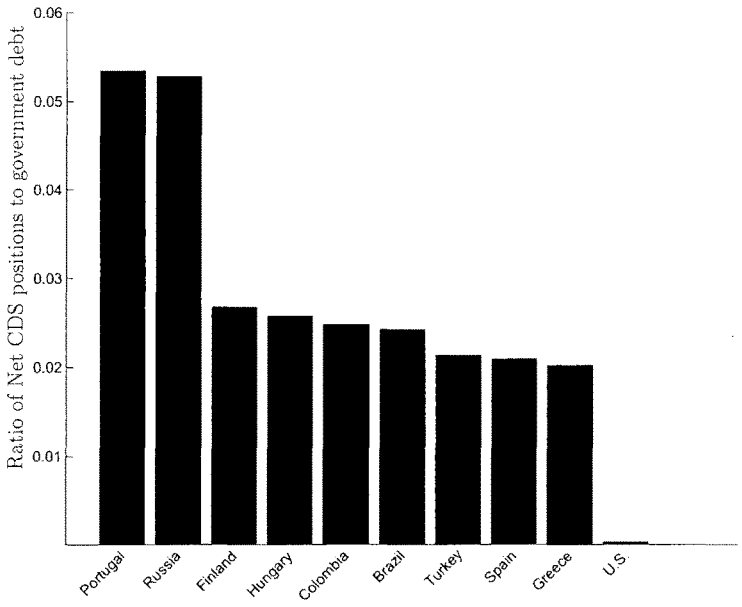

Figure 5: The ratio of aggregate net CDS positions (DTCC data) to national debt outstanding (Bloomberg data).

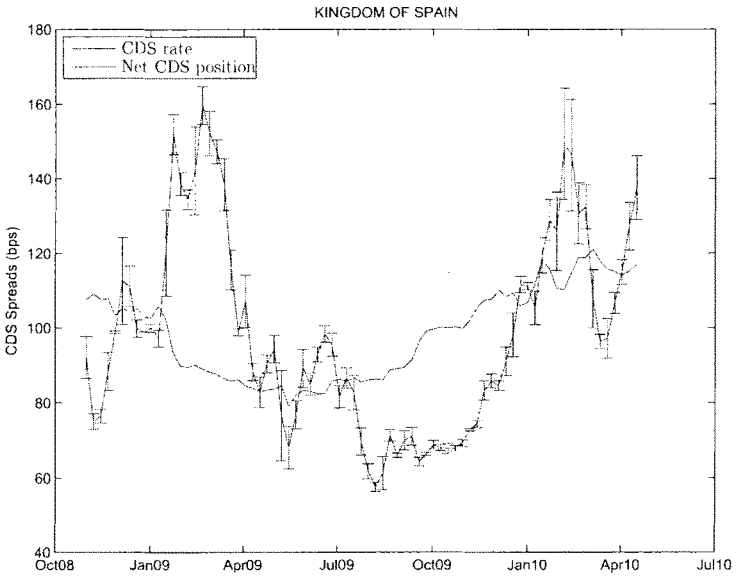

Figure 6: Spain: Credit default swap rates (Bloomberg data) and aggregate net CDS positions (DTCC data).

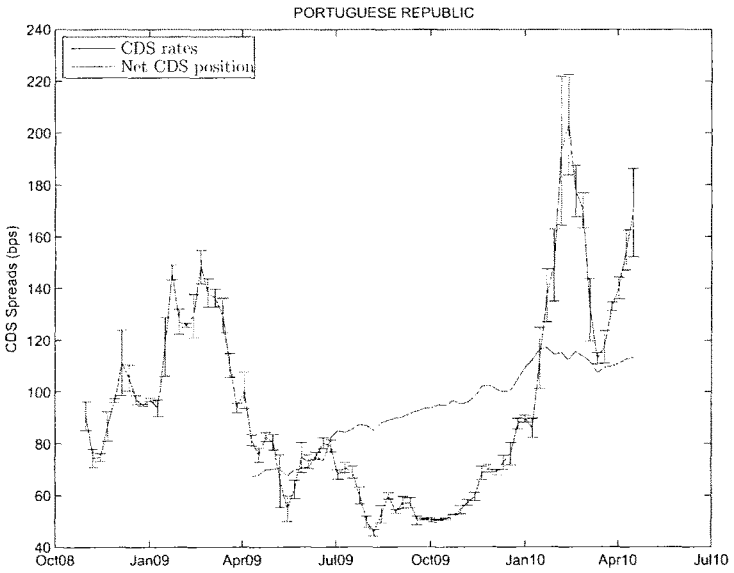

Figure 7: Portugal: Credit default swap rates (Bloomberg data) and aggregate net CDS positions (DTCC data).

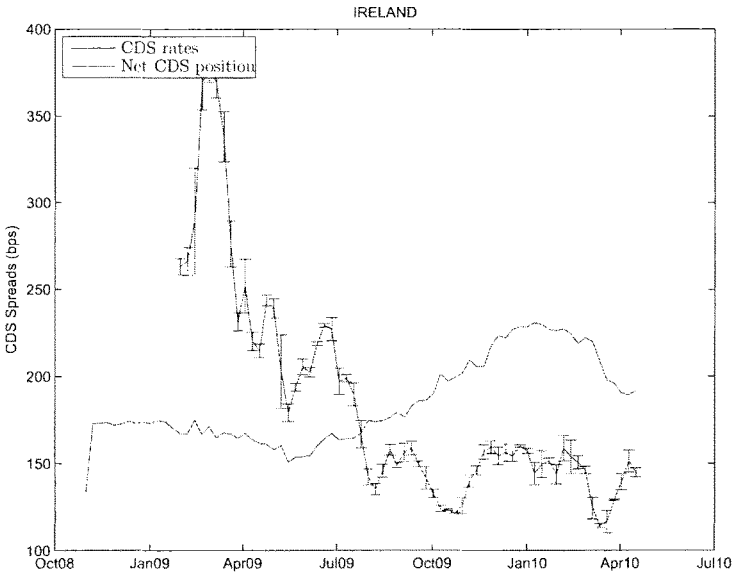

Figure 8: Ireland: Credit default swap rates (Bloomberg data) and aggregate net CDS positions (DTCC data).

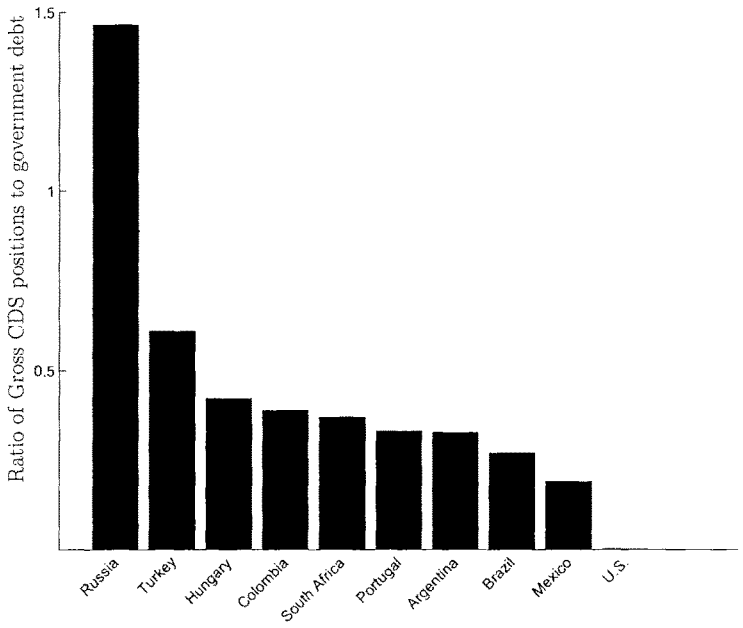

Figure 9: The ratio of aggregate gross CDS positions (DTCC data) to debt outstanding (Bloomberg data)

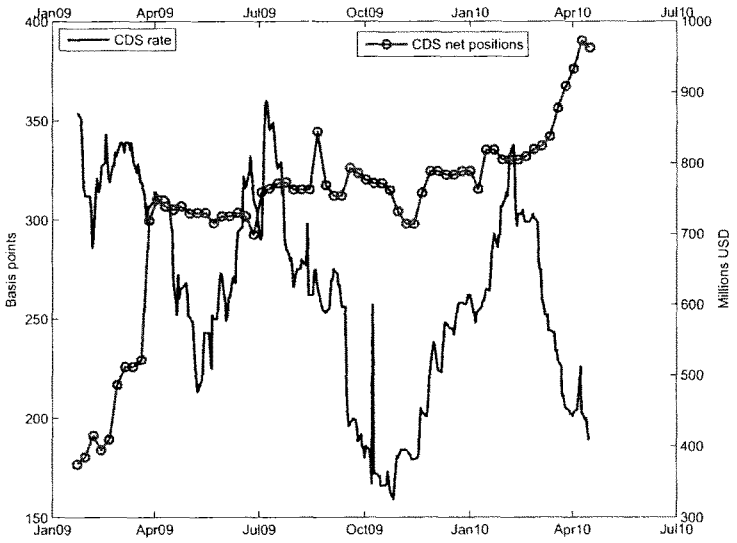

Figure 10: California: Aggregate net CDS positions (DTCC data) and CDS rates (Bloomberg data).

Hearing on Credit Default Swaps on Government Debt:
Potential Implications of the Greek Debt Crisis
Before the House Financial Service Committee, Subcommittee on Capital Markets,
Insurance and Government Sponsored Enterprises
Thursday April 29, 2010

Robert Johnson
Director of Global Finance, Roosevelt Institute

Chairman Kanjorski, Ranking Member Garrett, and members of the Committee, I thank you for the opportunity to address the issues related to credit default swaps (CDS) and their implications for government debt. As the Congress considers legislation on financial reform I applaud your efforts to explore the implications of financial practice and financial innovation, particularly in the area of derivative securities.

It is my view that the explosive growth of derivatives, and the immaturity of our market systems is at the core of financial danger we face moving forward. I have stated elsewhere, and continue to believe, that the Over the Counter (OTC) derivatives market is the San Andreas fault of the financial system. The interconnection of Too Big to Fail firms and OTC derivatives is a cocktail that may force the taxpayer to drink from disaster again in the future. Repair of this system to reduce complexity and opacity will allow the markets to function better when adversely shocked, as they were by the housing price downturn, and as they surely will be again.

Strong transparent markets that are well fortified with capital buffers and supervised and examined thoroughly are a means to help us reach our social goals. Market systems that are structured according to the profit imperatives of a few concentrated firms, firms that are supported by the backing of taxpayers, are very dangerous to the financial health of our nation. The structures that encourage a private appetite for risk that exceeds the social benefits of that risk are unhealthy. Markets are a public good and their structure has to attain and maintain integrity despite the formidable pressures that individuals and particular business interests bring to bear to refract that design for their private benefit and the detriment of society.

Today our concern is with the impact of the CDS derivatives market on the market for government debt. I want to emphasize that the history of government debt growth across many nations suggests that wars and financial crises are the greatest causes of extreme and rapid increases in public indebtedness. Some have estimated that the financial crisis of 2008 will result in a near doubling in the U.S. debt to GDP ratio. Therefore those concerned about our public finances must be very concerned about financial reform. Said another way, one cannot credibly claim to be a deficit hawk unless one is a financial reform hawk as well.

The credit default swap market has grown tremendously in recent years. The instruments played a large role in the financial crisis after the failure of Lehman Brothers, particularly with respect to the AIG bailout. At times innovation is

worshipped as a goddess of progress without measuring the value of that innovation. It is an article of faith. That does not appear to be the case regarding financial innovation any longer. Faith in the financial practices and the wisdom of unfettered markets has been shattered. At the same time faith in regulators and government action in the aftermath of the bailouts is also quite low. Experts in financial theory also lack credibility in light of the scale of the crisis and their inattention to the risks associated with innovation. Praying at the alter of liquidity and innovation rings hollow without a clear acknowledgement of the damage that immature market structures can do to social goals.

In the market for credit default swaps, some have been tempted to ban the instrument altogether and it is clear in light of recent revelations about financial practices and the tremendous social losses they can cause, that a profound shift in sentiment has taken place. At the same time, there is a sound logic that underpins the construction of instruments that isolate and transfer credit risk to where it is most able to be borne. Properly structured transparent CDS markets that are well capitalized and regulated can contribute to our well-being. In these controversial times it is important to keep in mind that markets are a useful tool, but a tool that must be managed and administered when constructing a balance between the social costs and benefits of a market for credit insurance. [1]

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[1] Richard Posner of the University of Chicago Law School made the following remark recently regarding financial markets in response to the following question:

KS *The general wisdom is that you switched from a laissez-faire approach to one that accepts*

Theories that depend upon the market possessing a highly quality of information, as a maintained hypothesis, may not be a good guide to the behavior of credit default instruments in some circumstances and give misleading perceptions of their value and cost to society. The standard fundamental theory of pricing operates from the premise that the market "knows" what the probability of default is. Prices, after a period of discovery, "reflect" that knowledge. Attempts to buy credit default swaps that increase the price are met with supply from those who know when the price gets too high. The price represents the truth and deviations from that truth are quickly arbitraged away.

An alternative perspective can be modeled that envisions a market environment filled with uncertainty and imperfect information. In this perspective, buyers of large amounts of CDS transmit a market signal that inspires market participants to believe that "someone knows something." Drawing inference from

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the role of government regulation to stabilize the economy. What has changed your view of capitalism?

Posner: This has really been only since September 2008—since the crisis, when I took another look at everything. There was erroneous monetary policy and much too low interest rates, which encouraged excessive borrowing. And then there's this very lax regulation of financial institutions, which reflects a failure to recognize that the financial industry is very unstable and requires regulation. It is connected to everything in the economy—consumers and businesses alike depend on it—so when it collapses, you've got real problems. A lot of people failed to see that. The financial backbone of the economy is a corner of capitalism that requires more intrusive and careful regulations than a lot of economists thought. Because of the centrality of credit in a capitalist economy, a capitalist economy is inherently unstable. This instability can become catastrophic unless you have something in place to mitigate it. Unfortunately no one seems to have very many great ideas on how to do this. (Six Questions for Richard Posner by Ken Silverstein, Harpers.com http://www.harpers.org/archive/2010/03/hbc-90006718)

price the market participants sell bonds and stock in the belief that default risk is greater. The higher funding costs in turn depress earnings and validate the projection of greater risk. Here the causation runs from price to fundamental outcome. Credit risk rises because markets induce the change in costs that validates the market price.

Examples of market manipulation contained in the appendix suggest that there are cases that are cause for concern regarding the use of credit default swaps. Government and municipal services are essential and manipulative market methods may put at risk the provision of services that municipalities provide. The hierarchy of human needs for basic elements of social function implies this is a valid arena for concern of government officials.

The appendix that follows these remarks is organized to address the questions in your letter of invitation. The conclusions that are produced there include the following:

1. The Greek crisis in sovereign debt is not fundamentally caused by credit default swaps. It is caused by the profile of spending and tax revenues and a dynamic of government debt accumulation that is fundamentally unsustainable.
2. The regulation of credit default swaps should include reporting of all exposures and positions; provisioning by those who write CDS to create a loss reserve; subjecting of CDS in capital ratios/ leverage

ratio to the full implications of the imbedded leverage that they represent; consideration should be given to requiring that the amount of CDS purchased be associated with an insurable risk, particularly in smaller market segments; continued movement toward central clearing and exchange trading and publishing of pricing data on a rapid and freely available basis. CDS markets should not be dark markets.

I submit the balance of my remarks for the record.

Background Information and Response to Invitation Questions on Credit Default Swaps.

By Robert Johnson, Arjun Jayadev, Michael Konczal

1. Credit Default Swaps on Government Debt: A Brief Introduction

Credit Default Swaps (CDS) are swap agreements that seeks to disentangle the credit risk associated with an underlying asset such as a bond or loan and sell it to buyers who are willing to hold that risk. Thus, for example, in a typical CDS contract where the underlying asset is a bond, a buyer of the CDS will provide a series of payments to the seller of the CDS in return for payment in case the bond defaults. CDS spreads are therefore seen as providing valuable information as to the perception of default: an increase indicates deterioration in the perception of credit quality while a decline signals an improvement. CDS can be written on a wide range of financial instruments including bonds, loans and other instruments.

CDS have both pros and cons as instruments. Since they parcel out credit risk, they serve the function of hedging against this risk as well as providing an alternative to ratings agencies by acting as a market based method of pricing risk. Some studies suggest that they have outperformed ratings agencies in the financial crisis. But they also have serious problems that may destabilize financial systems. They can be used in so called 'bear raids' and increase the vulnerabilities of the underlying entities. They are opaque, in the sense that they are mostly traded over-the-counter (OTC) and so pricing information is not openly available to market participants. They are often subject to severe counterparty risk (i.e. the risk that the seller cannot or will not pay in the event of a credit event) since they are typically uncollateralized and sellers of CDS contracts are not required to provision for credit events.

Credit Default Swaps on government entities were virtually unknown 10 years ago, partly since government debt is historically less likely to exhibit defaults (see Table 1 below). Since then, the market has grown considerably, especially in the last two years as the financial crisis has resulted in increases in government indebtedness and potentially decreased tax revenue to service this debt. Credit events in government CDS bonds can be triggered by a missed interest payment, a debt moratorium or financial restructuring. CDS in this regard is a new instrument and method of reflecting views on the health of a nation's finances- especially negative views-in ways that are not possible using traditional methods such as shorting government bonds. The concern about the use of CDS in distressed sovereign debt such as Greece, Portugal, Ecuador or Jamaica is whether the volumes in the CDS markets are simply leading indicators of the fundamentals or whether it drives them.

Since CDS was traded mostly over the counter, there is little publicly available information about the volume of CDS written on government entities in the early

part of the decade. However, since 2009, the Depository Trust Clearing Corporation (DTCC) has published weekly data on gross notional outstanding contracts and value in CDS markets. This is the only source of aggregate information, though there is some reason to believe that this source underestimates the total volume of such transactions. Table 2 below provides the data for CDS contracts for this week and a year ago from the DTCC. Gross notional outstanding contracts stand at 2 trillion dollars up from 1.7 trillion dollars last year. The majority of trades are between dealers (around 90% of both dollar volume and number of trades). Motives for holding sovereign and local government CDS vary, and there are many institutional players in the market. Proprietary desks, credit funds and hedge funds are both buyers and sellers of CDS. Bank counterparty hedging desks are typically buyers of CDS, while correlation desks are typical sellers of CDS protection.

The increasing volume of trades in government entities has meant that there has been an rise in interest in developing indices for sovereign and municipal CDS. Thus for example, Markit's iTraxx SovX index provides four credit default swap indexes that track the perceived risks of sovereign debt in emerging economies and Western Europe. Emerging Market CDSs have traded for nearly a decade, but CDS on sovereign debt of western European economies has been very low volume and is thus a new index. Similarly, Markit also offers the MCDX index comprised of large investment-grade municipal credits. Unlike the global sovereign debt market however, there are fewer issuances of municipal bonds that makes the CDS market thin, more volatile, and more subject to the criticism that the markets are being used to manipulate yield. Most experts believe that the volumes in CDS markets for both sovereign debt markets and state and local government debt will probably increase since debt defaults might exceed historical norms. Continuing weakness in Greece's financial situation for example has meant that the gross volume of outstanding credit default swap contracts on Greek national debt has risen substantially from around $ 40 billion last year to $85 billion two months ago on a stock of bonds worth around $400 billion.

While the motives of players in CDS market are clear (hedging against default risk, or speculating on default risk), one should note definite weaknesses on the supply side. Since CDS does not require an insurable interest, the volumes of CDS contract written are not bound by the value of the underlying asset. That is to say, one party does not need to own a bond in order to obtain protection through a CDS were it to default and thus any bond can have many contracts written on it. This is less of a problem if there are many sellers and it is a competitive market in selling so that risks are not concentrated in few entities. However, this has not always been the case. Furthermore, since writers have not been required to provision for losses and can book revenue as profits, writers can be undercapitalized when credit events occurred. The emblematic case of this was AIG in 2008, but MBIA and Ambac, two large bond insurers also faced severe problems during this time. These events severely disrupted confidence in the CDS market, necessitating immediate government intervention. Although that particular crisis was not triggered by credit

events in government entities, the rapid growth of CDS in government and muni bonds, the opacity of the market, the concentration of the supply side in the industry, and the fragility of the tax base for states might mean that a similar event could occur with protection issuers in the future.

2. The Greek Crisis and the Role of the CDS

Greece is undergoing a severe sovereign debt crisis. The country has sovereign debt of around $400 billion, and a budget deficit of nearly 13%. In the last few months it became evident that the country had understated the depth of its debt and its fiscal position through the use of derivative contracts. There was consequently an increase in spreads for CDS on Greek bonds and a rise in the interest rate that the country faced for borrowing. This in turn limits its viability in the European Union in the absence of a bailout from other countries in the EU. CDS spreads have also increased in countries like Portugal and Spain which also display relatively weak fiscal positions.

There has been a great deal of discussion in the role of the CDS market in the crisis. Some stories suggest that speculation in CDS markets and leveraged shorting has led to sharp increases in interest rate payments, has caused ratings agencies to downgrade Greek debt to junk status and has put severe pressure on the viability of the Euro. As it stands, such stories appear overstated to us. First, as Figure 1 shows, the CDS market has been showing increasing spreads on Greek sovereign debt for a considerable period of time, since late November and there have been no sharp or sudden increases. Second, the volumes of trades (gross $85 billion, and net $9 billion dollars on an underlying portfolio of $400 billion) is in line with CDS/debt ratios on other sovereign entities such as Spain, Portugal and Italy) as seen in Table 3 and as such, is unlikely to be driving bond prices[2].
CDS spreads on Greek debt, while among the highest in the world, are exceeded by several other countries, as displayed in Table 4. Furthermore, as the concerns about Greek debt cascades and puts the financial status of other countries in the EU under the microscope, one should expect to see a larger role of CDS for both sovereigns and financial institutions exposed to the sovereigns in the coming days and weeks and a potential re ranking of the countries listed in Table 4.

3. CDS on National and State and Local Governments:

While the Greek case does not seem to be about manipulation originating from the CDS market, it is possible that CDS markets can worsen fragile debt situations without due cause. If CDS spreads begin to widen, there can be a situation where market participants seek to buy more protection, thereby further increasing spreads and creating a self-fulfilling prophecy. This in turn can have serious impacts on a sovereign entity to the extent that CDS is taken as an accurate picture of underlying

[2] See Citibank's assessment in http://www.scribd.com/doc/27775379/Citi-Sovereign-CDS-You-Can-t-Blame-the-Mirror-for-Your-Ugly-Face for more details.

risk and used to set interest rates on its debt. Therefore, there is good reason to ask about the proper scope of CDS contracts in sovereign and local government debt. This is a concern with some valence since sovereign debt is often used to finance very important social services to vulnerable people and to the extent that these services are undermined by overstated risk of government default, this can have unnecessary negative social consequences. While this may not be a concern with the sovereign debt of the US at the current juncture, there are more serious issues with municipal debt. A recent Wall Street Journal article pointed to the fact that CDS use may be driving up borrowing costs for state and local governments[3]. Since these markets are thin at the moment, it is possible that there is substantial price volatility in the CDS prices, but there is very little easily available aggregate data on the subject.

Thus far, there have been a few sovereign credit events (Ecuador, Russia and Argentina) that have had credit derivatives written on them. Unlike in corporate defaults, investors cannot seize assets from sovereigns, and so the pricing of distressed sovereign CDSs will differ significantly from that on corporate distress. The value of the contracts will be based on more limited historical information and CDS spreads are likely therefore to be more volatile in during sovereign debt events than in corporate debt.

The municipal CDS market began active trading in 2003, with significant increases in liquidity in 2007, especially in the 10 year market. The majority of trades have been on state general obligations. There is assumed to be a high recovery rate compared to the corporate CDS sector.

4. Case studies for CDS manipulation

A 2006 report by Insol International, "Credit Derivatives in Restructurings," concluded that as the credit derivative market grows and matures, ownership of credit derivative positions could influence restructuring events. A party at a restructuring that has a CDS position may have different interests from other players at the restructuring. What is worse, they concluded that it is unlikely that it would be in the interests of the party holding the CDS to reveal their position, and they are unlikely to be under any obligation to disclose this position to the other interested parties. In the absence of disclosure of CDS protection to all person at a restructuring event, there will be a large information asymmetry that could lead to suboptimal bargaining and results for the firm in question.

A list they provide, compiled with Fitch Ratings, lists over 35 credit events under which credit derivatives have been called, including Air Canada, Deta Airlines, the sovereign debt of Ecuador, Indonesia and Russia, Xerox, Marconi, and Pacific Gas &

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[3] States Bristle As Investors Make Wagers on Defaults-Ianthe Jeanne Dugan- Wall Street Journal, 27th April 2010.

Electric. This list will grow in the future, and the problems of negotiations being drawn out and resulting in suboptimal situations only likely to grow with it.

The recent revelations on the hedge fund of Magnetar, reported by the non-profit reporting firm ProPublica and also in the book by Yves Smith "Econned", show another example of CDS being used in conflicting ways. The hedge fund Magnetar would put up money to create a CDO of risky subprime mortgages and then bet against it using credit derivatives. If markets worked perfectly, they should not be able to make any money doing this, but because of the opacity of the market they made a windfall.

And this has major social implications. According to some numbers provided by Smith, Magnetar deals could have accounted for 35% of 2006 subprime issuances. As we now know, the 2006 vintage of subprime loans were a particularly bad group in terms of performance. And according to ProPublica, Magnetar put pressure to make sure the mortgage bonds they were creating were particularly bad ones. The final number for defaults for Magnetar created bonds that were able to be found by ProPublica was 96%, compared to a default rate of around 65% for a comparable instrument.

This is an example of where poorly priced credit derivatives can distort the market, creating more risk than is optimal. As the housing market was likely to cool in 2005, creating instruments who

As the economist Perry Mehrling has said, in an interview with the Atlantic Monthly: "If you insure an earthquake, you are not making earthquakes more likely. The insurance contract is a purely derivative contract, it isn't influencing earthquakes. That is not true of insurance of financial risk. When AIG is selling you systemic risk insurance for 15 basis points, that price is too low. People said: '[If I can get rid of the whole tail risk that cheaply, I should load up. I should take more systemic risk.'"

5. Proper structure of CDS –insurable risk, premiums for provisioning.

Given that CDS, properly used can be a useful instrument for pricing and parceling risk--but that it can also have serious negative impacts on market integrity and social welfare and is subject to market manipulation-- making sure the regulatory structure governing these instruments is appropriate is a critical task for government. Several key issues have been debated that we address here.

a. Bans on naked CDS, especially in debt of government entities

Some discussion by legislators in both the EU and the US has suggested the banning of CDS in which the buyer does not have an insurable interest in the underlying asset, particularly if the asset is the debt of a government entity. At the current juncture, there appears to be little concern that naked shorts on CDS are driving bond yields upwards in some of the more distressed sovereign debt markets. While

there are speculators who are obtaining naked CDS positions on debt and profiting from these, it is not clear that these entities have enough volume in this market to drive yields in the much larger bond market. While this is not a concern at the moment this may become a bigger issue, as the CDS market grows especially for smaller sovereign nations. Just as importantly, for state and local governments, one can easily imagine that the CDS market can exceed the size of the underlying assets by a considerable margin and that CDS spreads can drive yields. Certainly, the volume of CDS written on private securities often exceed the value of the securities by multiples of the underlying value, showing that there are many entities buying naked CDS positions. Given the importance and sensitivity of government debt, policy makers will have to face the trade-off between the price discovery function of naked CDS contracts and the potential they provide for systemic disruption. Our contention is that naked CDS contracts do not help provide considerably more price information than ratings agencies for government entities since the balance sheet of these entities are easy to monitor and the revenue and expenditure streams are well known and stable.

b. Provisioning for Credit Events

We have noted a weakness on the sell side of the CDS contract, namely that sellers do not have to provision against the contingency of a credit event given the legal nature of a swap. This can be a huge problem as it means that a CDS writer can be highly undercapitalized in the event of a credit event. This should be remedied by a requirement for adequate capitalization for writer that reflects the substantial leverage embedded in the CDS contract.

c. OTC vs. Exchange/Clearinghouse

There is by now, a broad consensus that there should be a presumption that all derivative instruments be traded on exchanges or clearinghouses rather than over the counter. The financial crisis should that the current market structure for OTC derivatives could not adequately deal with disclosure and information for market participants, limiting the ability for a speedy resolution of distressed financial firms and exacerbating uncertainty. This creates a strong signal that all derivatives, including credit default swaps be traded on exchanges as best practice and those that cannot be standardized to such an extent be traded through clearinghouses. Those that are not exchange traded should be required to set aside additional capital to insure systemic integrity and to provide an incentive to more towards more transparent structures. This will have the effect of limiting bespoke and making buyers take on some additional basis risk associated with imperfect hedges. This will certainly be the case with sovereign and states and municipal debt.

d. Publication of data

There needs to be full disclosure of price, volume and open interests in the credit derivative markets. Understanding the price of recent transactions disciplines the

valuations of these instruments that can be used to mark prices on the balance sheets of large, complex financial institutions. In addition, prices serve as a reference to market participants and create a more efficient marketplace.

e. Systemic reporting so the entire constellation is known , particularly on sovereign debt and systemically important entities.

Table 1: CUMULATIVE HISTORIC DEFAULT RATES

	Municipals	Sovereigns	Corporates
Aaa/AAA	0.00	0.00	0.19
Aa/AA	0.06	0.00	0.41
A/A	0.03	0.00	1.71
Baa/BBB	0.13	3.53	4.13
Ba/BB	2.65	20.82	18.73
B/B	11.86	24.72	41.45
Caa-C/CCC-C	16.58	33.33	65.56
Investment Grade	0.07	0.66	2.01
Non-Invest Grade	4.29	22.95	32.52
All	0.10	6.36	10.55

* Source: Moody Investor Services, Default Rates within 10 years, 1970-2006
** Source: Moody Investor Services, Default Rates within 10 years, 1983-2008

Table 2: Gross Notional Outstanding Trades and Volumes in Sovereign/State Bodies
CDS: Source DTCC

		1 year ago	% of Total	Current (26th April 2010)	% of Total
Dealer	Notional Outstanding	1,589,247,140,433	89.60%	1,992,443,935,433	89.50%
	Number of Trades	124,612	90.30%	145,931	88.10%
Non-Dealer/Customer	Notional Outstanding	183,598,754,395	10.40%	233,068,684,759	10.50%
	Number of Trades	13,349	9.70%	19,683	11.90%
All	Notional Outstanding	1,772,845,894,828	100%	2,225,512,620,192	100%
All	Number of Trades	137,961	100%	165,614	100%

Table 3: CDS/Debt Ratios for Selected Sovereigns

	Gross CDS ($bn)	Government Debt ($bn)	CDS/Government Debt
Portugal	64	164	39%
Greece	85	406	21%
Spain	110	644	17%
Italy	231	2024	11%
UK	36	1398	3%
Germany	66	1690	4%

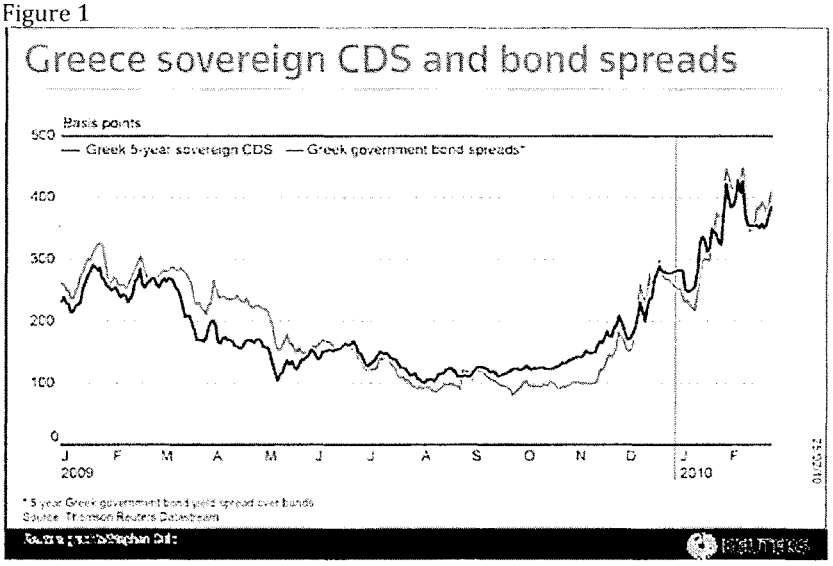
Source DTCC

Table 4: Top Sovereign Debt Risk as of April 07 2010 as rated by CDS spreads.

Global Ranking by CPD

Country	CPD (%)	5yr Mid (bps)	CMA Implied Rating	CMA Implied Rating Q4
Venezuela	48.5%	944.6	CMA_ccc+	CMA_ccc
Argentina	46.0%	898.4	CMA_ccc+	CMA_ccc+
Pakistan	42.3%	791.9	CMA_b-	CMA_b
Ukraine	35.4%	624.2	CMA_b	CMA_ccc
Iraq	28.9%	471.3	CMA_b+	New Entry
Dubai	26.6%	436.1	CMA_b+	CMA_b+
Iceland	23.3%	386.5	CMA_bb-	CMA_bb-
Latvia	22.8%	365.6	CMA_bb	CMA_b+
Greece	20.4%	335.9	CMA_bb-	CMA_bb+
Egypt	16.5%	251.5	CMA_bb	CMA_bbb-
Vietnam	16.4%	248.6	CMA_bb	CMA_bbb
Lebanon	16.2%	245.4	CMA_bb	CMA_bb
El Salvador	15.2%	230.0	CMA_bb+	New Entry
Lithuania	15.0%	229.1	CMA_bb-	CMA_bb-
Romania	13.3%	200.0	CMA_bb	CMA_bb
Bulgaria	13.0%	193.2	CMA_bbb	CMA_bbb
Croatia	12.7%	189.1	CMA_bbb	CMA_bbb
Hungary	12.2%	181.5	CMA_bbb+	CMA_bbb
Bahrain	11.6%	170.4	CMA_bbb	CMA_bbb
Turkey	11.5%	169.4	CMA_bbb+	CMA_bbb+
Kazakhstan	11.5%	169.0	CMA_bbb+	CMA_bbb
Indonesia	10.9%	158.1	CMA_a-	CMA_bbb+
Philippines	10.7%	157.1	CMA_a-	CMA_a-
Colombia	10.3%	150.6	CMA_a-	CMA_a
Russia	9.8%	142.1	CMA_a	CMA_bbb+
Portugal	11.7%	139.6	CMA_bbb+	CMA_aa+
Ireland	11.7%	139.5	CMA_bbb+	CMA_bbb+
South Africa	9.1%	133.0	CMA_a+	CMA_a
Brazil	9.0%	131.0	CMA_a+	CMA_aa-
Peru	8.9%	128.6	CMA_a+	CMA_aa-
Panama	8.9%	128.2	CMA_a+	CMA_a+
Mexico	8.1%	116.0	CMA_a	CMA_a
Spain	9.8%	115.6	CMA_a	CMA_aa
Italy	9.6%	113.7	CMA_a	CMA_aa
Israel	7.9%	113.1	CMA_aa	CMA_aa
Abu Dhabi	7.7%	112.3	CMA_aa	CMA_a-
Morocco	7.5%	109.6	CMA_aa	CMA_aa
Tunisia (Central Bank)	7.3%	104.9	CMA_aa	CMA_aa

Figure 1



Source: http://blogs.reuters.com/felix-salmon/2010/02/25/chart-of-the-day-greek-bonds-and-cds/

Testimony of Joseph R. Mason

Hermann Moyse, Jr./Louisiana Bankers Association Professor of Finance,
Louisiana State University and Senior Fellow, the Wharton School

Before the House Financial Services Committee,
Subcommittee on Capital Markets, Insurance, and Government Sponsored Enterprises

April 29, 2010

**"Credit Default Swaps on Government Debt:
Potential Implications of the Greek Debt Crisis"**

Thank you Chairman Kanjorski, Ranking Member Garrett and members of the committee for inviting me to testify today on this important and timely topic

Credit default swaps in general and sovereign credit default swaps in particular are relatively new financial products that are vexing regulators and policymakers who are striving to understand their role in the modern financial marketplace in the midst of the ongoing financial crisis. In what follows, I provide background on sovereign CDS instruments; the sovereign CDS market; the causes of the Greek debt crisis; CDS market participants and historical default rates; implications of sovereign CDS market growth for sovereign issuers and public policy; the market's relevance to regulatory reform; and additional policy implications.

Background on Sovereign CDS: Market, Terms, Trading, and Uses

Credit derivatives are a class of financial instruments that isolate and transfer to investors the credit risk generated in different types of lending transactions. Investors in credit derivatives are typically referred to as protection "sellers," agreeing to cover the cost if a pre-defined credit event occurs. For taking on the credit risk, the seller receives a payment from the protection "buyer."

While all credit derivatives are based on this principle, they differ as regards the specified credit event (payment default, restructuring, deterioration in creditworthiness etc…), the number and kind of underlying financing transactions (bank credit or bonds) and the form of derivative (option, forward, swap). In return for taking the default risk the protection seller receives periodic premium payments from the buyer (the "CDS spread"). (Deutsche Bank, "Credit derivatives: effects on the stability of financial markets," Current Issues, June 9, 2004)

Settlement may be offered in cash or physical delivery of the underlying bond or other debt obligation. Even where physical delivery is stipulated in the contract, cash auctions are used to supplement markets where there exists a lack of physical bonds.

While credit default swaps (CDSs) are the most common form of credit derivative, they only make up about sixty-five percent of the market for credit derivatives. Some twenty percent of the market is made up of synthetic collateralized debt obligations (CDOs), and the rest is a mixture of credit linked notes, total return and asset swaps, and basket and credit spread products. Hence, CDS are only one of many credit derivative products in a robust and innovative marketplace. (British Bankers Association 2006)

Most recently, indexes on a variety of CDS have come to be offered in the marketplace. In the sovereign credit space, the two main indexes are the CDX and the iTraxx. The CDX, a U.S. product, tracks 125 entities in the index, most investment grade. Index spreads should equal the average CDS spreads of the 125 underlying reference entities (to give zero basis). The iTraax is the equivalent index in Europe.

A CDS pays out based on a pre-specified "credit event." The CDX's only credit events are 'bankruptcy' and 'failure to pay' which is a narrower definition than that used for single name credit default swaps. The restriction is necessary because the individual CDS definition of a "credit event" also typically includes 'restructuring.' Beginning April 8, 2009, however, with the "Big Bang" ISDA protocol both CDX and individual CDS excluded restructuring (for U.S. issuers). CDS on European issuers like Greece, however, still include the restructuring clause, creating some behavioral and pricing differences for Greek and other European CDS relative to U.S.

Prior to the DTCC releasing data on net volumes, the only indication the market had of credit derivative volumes came from ISDA surveys. These gross numbers attracted media attention because of their size: some reported $60 trillion of so-called credit default swaps. The gross numbers are misleading, however, because they include contracts that are offset or hedged by other contracts and don't give any indication of the economic transfer that might occur in the case of default. As a result, only a small proportion of the total notional outstanding represents an unhedged risk to the marketplace.

Sovereign CDS Market Size, Growth, and Development

Until recently, the global credit derivatives market has been very opaque. Before the DTCC reporting, nearly all information on market volume was based on estimates and/or surveys among market participants. That is also the reason why the estimates of prior market activity differ greatly.

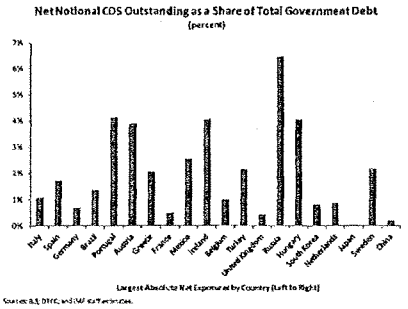
In the United States, all commercial banks are required to report their derivatives transactions to the Office of the Comptroller of the Currency (OCC). That means there is much more detailed historical information available on the structure of the U.S. market (at least for banks) than there is for other countries. After December 2004, the BIS began to release semiannual data on credit default swaps (CDS) including notional amounts outstanding and gross market values for single- and multi-name instruments. Additional information on CDS by counterparty, sector and rating has been made available as of December 2005.

While European CDS markets in total measure over $36 trillion in notional principal, currently – even including all the single-name CDS on individual governments – there is only about $108 billion in CDS outstanding on European sovereigns. That amount is miniscule compared to European government bond market outstandings of $11 trillion, roughly 100 times the size of the sovereign CDS market. (Citibank, "Sovereign CDS: 'You can't blame the mirror for your ugly face'" March 1, 2010)

As of March 2010, sovereign CDS were prominent among the top 30 U.S. single name CDS contracts with the largest net notional positions outstanding, reported on DTCC. Ranked from largest to smallest at that date were Italy; Spain; Germany; Brazil; Portugal; Austria;

Greece; France; U.K.; Mexico; Turkey; Belgium; Ireland; Russia; Japan; and Hungary. Outstanding debt volumes of those countries are highly correlated with the size of these outstanding net CDS positions. Sovereign CDS volumes of all of those countries grew rapidly in the last year as stress on many of those country's fiscal conditions worsened. (Citibank, "Sovereign CDS: 'You can't blame the mirror for your ugly face'" March 1, 2010)

The figure below shows that net notional CDS outstanding as a share of total government debt is typically low for most every country of concern, the highest ration being for Russia, one of the few countries worldwide that has ever defaulted without later settling their debt for some negotiated recovery value.



The top five CDS counterparties in the U.S. have, for the most part, remained consistent for some years now. JP Morgan, Morgan Stanley, and Goldman Sachs have been among the top five counterparties in United States CDS markets since 2003. Deutsche Bank joined the top five in 2005. Barclays was in the top five in 2007 and 2009, replaced temporarily by Credit Suisse in 2008. UBS was among the top five in 2004 and 2005. Credit Suisse and Merrill Lynch made the top five in 2002 and 2003, respectively. (Fitch, "Global Credit Derivatives Survey: Surprises, Challenges and the Future," August 2009)

Causes of the Greek Debt Crisis

While it is widely held that unprecedented monetary and fiscal policy responses of countries worldwide have been successful at preventing a worst case scenario repeat of the Great Depression, the combination of rising fiscal deficits and continued monetary policy accommodation has raised concerns about the sustainability of public finances and fears of inflation.

Presently, the sense that fiscal positions of those countries will remain suppressed for the foreseeable future is widely held as inevitable, with ageing populations and pension obligations expected to create a further drag on economic growth. "The experience of Sweden and Japan in the 1990s confirms that, irrespective of the ultimate success of

government intervention, debt-to-GDP ratios are likely to deteriorate significantly in years to come." (Deutsche Bank, Fixed Income Outlook 2010, 11 December 2009) As a result, the recent uproar about Greece's fiscal woes and possible debt default are viewed by many as merely a "canary in the coal mine."

It is hard to argue that Greece is not to blame for its difficulties. As of December 2009, Greece had the highest fiscal account imbalance as a percent of GDP of all the Euro-area countries and Britain, at -7.7%, and its projected 2009, 2010, and 2011 balances were second only to Ireland. It is not surprising, therefore, that Greece's five-year CDS was trading at the highest spread of any of those countries at the time, at roughly 300 bps versus an average of 73 bps for the area overall. (Deutsche Bank, "European SOV risk in transition from systemic to specific," Dec. 9, 2009)

Greece has long been a candidate for fiscal crisis. "It has run deficits averaging 7.8% of GDP since 1988. It spends 7% of GDP on public administration compared to 3% for the Eurozone. Its direct tax receipts from personal and corporate income are only 7.2% of GDP compared to 13.5% for the Eurozone. It has a retirement age of sixty-one compared to sixty-seven for Germany. The income Greece gives to pensioners in their first year of retirement is equal to 105% of their last year of employment compared to 43% in Germany, 66.2% in France, and 80.2% in Italy. Greece increased defense spending by 11% last year to 2.8% of GDP compared to a Eurozone average of 1.7%. Greece has the largest defense share of GDP in Europe. Its traditional rival, Turkey, spends only 1.7% of GDP on defense. The previous conservative government had a small parliamentary majority and raised the public sector share of GDP from 45% to 52% in search of votes. The recently elected Socialist Party had a history of running large fiscal deficits during the 1980s and 1990s." (David Hale "Why Europe Is Reluctant to Rescue Greece?" David Hale Global Economics, April 14, 2010, Volume 08.08)

Moreover, Greece has been in default for more than half of its history as an independent country. Greece defaulted four times in its modern history. The first default occurred during the War of Independence during the late 1820s.[1] The second default came in 1843.[2] The third default came in 1893.[3] The final default came in 1932.[4] (David Hale "Why Europe Is Reluctant to Rescue Greece?" David Hale Global Economics, April 14, 2010, Volume 08.08)

[1] The Greeks had borrowed from British investors at high interest rates and with large commissions. They borrowed to finance the construction of three frigates, but only one was actually delivered after the fighting ended.

[2] The defaults were on loans taken out during the War of Independence and to establish a Bavarian prince as the new King of Greece in 1832. The funds went to pay for the troops and civil servants which he brought with him from Bavaria.

[3] This default was on loans for projects that were pursued to modernize the country such as for construction of railways, ports, the Corinth Canal, and three battleships for the Navy. Prime Minister Charilaos Trikoupis attempted to slash the interest rates on loans by 70% and raise taxes to repay the loan, but he lost the 1895 election. The new government started a war with Turkey over Crete and suffered a humiliating defeat. The great powers Britain, France, Germany, and Russia then intervened to mediate a peace treaty and offered Greece a new loan to pay compensation to Turkey. As a result of this intervention, they also established the International Finance Commission to supervise Greece's fiscal affairs. It established monopolies on salt, gas,

With such a history, investors are right to be suspicious, so that blaming the messenger will still not erase the fact of Greece's difficulties. While the CDS market has taken some time to develop, ISDA maintains rightly that "The most commonly traded CDS, including sovereign CDS, are simple and relatively liquid." Moreover, ISDA points out that modern CDS markets are "...far from opaque. Market participants and the general public have ready access to data to evaluate market activity. The amount of outstanding CDS and weekly transaction activity for the 1,000 largest names [including sovereign CDS] are publicly available." (David Oakley , "Sovereign CDS top ISDA agenda," FT.com, March 15 2010 http://www.ft.com/cms/s/0/41693c04-3068-11df-bc4a-00144feabdc0.html)

Moreover, the market for sovereign CDS is much smaller than the underlying market for government bonds. ISDA also notes that "The activity and outstanding volumes in the Greek CDS market need to be contrasted with the outstanding volumes in the Greek government bond market, which exceeds $400bn. None of the data can possibly lead to a conclusion that a market of $9bn can dictate prices in the $400bn government market." (David Oakley , "Sovereign CDS top ISDA agenda," FT.com, March 15 2010 http://www.ft.com/cms/s/0/41693c04-3068-11df-bc4a-00144feabdc0.html)

So while some still express concern that the CDS tail is wagging the Greek dog, it is hard to conclude – given the weak fiscal situation, the dire need for spending cuts, and the miniscule size of the CDS "tail" – that CDS markets are to blame for the Greek drama, or are even magnifying the situation to any substantial degree. Of course, as of this hearing, Ireland, along with Italy and Portugal, are being pressured similarly, for similar reasons.

Market Participants and Historical Default Rates

Defaults are nothing new, even for sovereign entities and municipalities. There exists a long history of defaults throughout world, as well as U.S., history. George H. Hempel (*The Postwar Quality of State and Local Debt*, NBER 1971) provides the definitive guide to the history of U.S. state and municipal defaults. Between 1839 and 1929, a significant number of U.S. state and municipalities defaulted, culminating in spikes associated with the crisis and recovery decades of the 1870s and 1890s-1900s, as well as the 1920s.

While those periods culminated in annual defaults totaling around sixty per annum (even if persisting for several years around that peak), the period 1933-1942 saw an increase in the magnitude of defaults to peaks in the thousands. By 1933, recorded defaults approached 2,000, and by 1935 and 1936 they were in the range of roughly 10,000, per *month*, across all sectors and categories.

matches, and playing cards and tariffs on Piraeus Harbor to raise funds for repaying Greece's debt. The IFC maintained an office in Athens until 1978.

[4] This default resulted from the Great Depression and the need to accommodate a large influx of refugees from Turkey after 1923.

By 1938, there existed consistent reporting of municipal and state defaults that recorded some 353 defaults totaling $210 million between 1938 and 1966, leaving behind $134 million of recoveries and just over $76 million in admitted losses.

More recently, S&P reports that the five-year transition rate for AAA-rated local and municipal debt over the period 1975-2009 was 27.4%, with 10.9% of that resulting from ratings that were withdrawn and 16.4% resulting from ratings that were downgraded (almost exclusively to AA). For local and municipal debt initially rated BBB, only 48.9% remained BBB at the end of the five-year period. 12.9% had been upgraded to A, and 11.8% downgraded to BB and B. 26.4% of initial BBB ratings had been withdrawn, completely. (http://www.standardandpoors.com/ratings/articles/en/us/?assetID=1245207200986) S&P reports that the sovereign speculative grade rated fifteen-year default rate over the same period was 29.66%.
(http://www.standardandpoors.com/ratings/articles/en/us/?assetID=1245207089474)

Changes in Per Capita Net Debt and in Net Debt Per Thousand Dollars of Assessed Valuation, 1922-32

	Per Capita Net Debt			Net Debt Per $1,000 of Assessed Valuation		
States	1932	1922	Per Cent Increase	1932	1922	Per Cent Increase
States with serious default problems						
Arkansas	$137.20	$ 51.03	168.8	$651.16	$255.80	192.2
Florida	357.74	92.96	292.0	933.73	233.17	322.7
Louisiana	169.05	69.18	144.4	216.33	81.30	166.1
Michigan	157.66	94.09	67.6	98.68	64.01	55.2
New Jersey	218.61	116.49	139.4	163.83	93.16	81.2
North Carolina	164.84	69.03	138.8	188.71	72.48	159.7
Ohio	129.89	112.25	15.7	64.38	64.33	.1
Texas	125.93	73.71	70.8	136.44	105.36	62.5
Weighted Average	130.99	80.94	90.1	136.09	78.53	73.4
States with no default in 1933						
Connecticut	$ 98.59	$ 70.33	40.2	$ 51.60	$ 51.43	.3
Delaware	171.20	98.32	73.3	89.56	98.96	-.7
Maryland	158.28	88.43	79.0	98.57	91.76	11.6
Massachusetts	101.73	82.30	23.7	58.66	57.59	1.9
New Hampshire	67.51	36.16	67.5	46.79	26.93	73.0
Rhode Island	158.55	77.38	99.3	76.26	47.04	62.2
Vermont	75.50	34.03	121.9	61.64	39.93	53.9
West Virginia	86.33	46.58	85.3	80.73	33.69	139.6
Weighted Average	103.96	71.83	51.7	65.39	53.03	26.0
For all 48 states	141.17	79.90	77.3	107.63	69.71	54.4

Sources: Bureau of the Census, *Financial Statistics of State and Local Governments, 1932 and Public Debt*, Washington, D.C., 1932 and 1924 respectively.

d = eight percentage decline

Source: Hempel, George H. *The Postwar Quality of State and Local Debt*, NBER 1971

Hempel further demonstrates that what we are experiencing today in Greece, as well as among some state and local entities in the U.S., is all too common. The table above shows that states with serious default problems after the Great Depression had taken on far more debt in the previous ten years than states that had no defaults. While debt for all entities rose in the Great Depression, the per capita net debt increase for states with serious default problems rose an average of 90.1% over the previous ten-year period, while that for non-defaulting states rose only 77.3%. Net debt per $1000 of assessed valuation for defaulting

states rose an average of 78.5%, compared to 69.71% for non-defaulting states. Hence, even historically, default is not a threat without a substantial debt load.

Still, although the need for CDS on sovereign and municipal debt may be justified, the market remains in what you could characterize as the middle stages of development. As recently as 2003, relatively few market participants traded in credit derivatives. "In December 2003, according to the OCC, only 26 out of more than 2,200 U.S. commercial banks participated in the credit derivatives market as protection buyers; 16 acted as protection sellers. The seven most active domestic banks in the U.S. credit derivatives market accounted for 98% of the total volume originated by U.S. banks." (Deutsche Bank, "European SOV risk in transition from systemic to specific," Dec. 9, 2009)

High concentration results in substantial individual counterparty risk concentration and exposure. With some obligations (usually reference debts without investment-grade status), it can be difficult to find a counterparty at any given time. "This is especially true when the market is under strain. At such times there is a danger that trading may be impossible – which also means there can be no reliable [market] pricing." (Deutsche Bank, "European SOV risk in transition from systemic to specific," Dec. 9, 2009)

That concentration has raised the specter of counterparty default as a major systemic risk. Nonetheless, counterparty bankruptcy – as demonstrated in the recent crisis – is extremely unlikely. Similarly, while a major market participant may withdraw voluntarily for strategic reasons, this is also unlikely in a market that is growing steadily as more and more banks and other financial services providers join. The more likely adverse scenario – one that we did see demonstrated in the crisis – is that concentration intensifies due to mergers and acquisitions among the top market participants, constraining counterparty choice and risk even more acutely. (Deutsche Bank, "European SOV risk in transition from systemic to specific," Dec. 9, 2009)

As sovereign and municipal CDS markets mature, however, it is expected that new entrants will greatly reduce the existing market concentration. It can reasonably be expected that, "in trading, though, a certain degree of concentration will remain, as high sunk costs are a barrier to the market entry of new participants." (Deutsche Bank, "European SOV risk in transition from systemic to specific," Dec. 9, 2009) Hence, while risk may decline among individual market participants, it may rise at the central counterparty clearing entity envisioned in regulatory reform. Recently, the IMF has opined that the magnitude of risk to be assumed at the proposed CCP is of an order of magnitude in the neighborhood of some $200 billion. That estimate should not be dismissed.

Implications of Sovereign CDS Market Growth for Sovereign Issuers and Public Policy

Some have pointed to CDS as creating problems for sovereign debt financing. It is hard, however, to see the case. While CDS provide transparency by aggregating market views of

the probability of default and recovery, CDS – in and of themselves – do not create additional volatility to those views.

The view of CDS as creating volatility comes from observations that CDS spreads can widen quickly before a credit event, reflecting demand from CDS protection buyers. Since the cash bond market may be illiquid cash bond prices may not move, creating the illusion of stability against which CDS market volatility looks odd. In that case, however, CDS markets are really providing a more continuous pricing of the risk behind the debt, therefore yielding a more "market efficient" view of the evolving potential for a particular credit event or set of credit events.

Some of the fear arises because CDS markets may be dominated by fast-moving hedge funds, while cash bond markets are dominated by buy-and-hold real money investors. The signals from the two markets may therefore be at odds during distress. Academic and practitioner literature has shown that pricing between the two can diverge, creating even more fear that something amiss is going on. That divergence, however, has been shown to be bounded by some fundamental institutional and value differences between CDS and the underlying debt contracts.

The problem is that while default probability is rising, probable recovery is falling. Hence, CDS spreads move in magnitudes greater than mere default probability alone, leading some to cite the volatility as an untoward aspect of CDS prices. But while this observation serves as a warning against using fixed recovery expectations, it should not serve as an argument against CDS, altogether. In situations where expected recoveries are scant, it merely means that more complex models of stochastic recoveries need to be taken into account in valuation and margining.

Recovery rate assumptions are less of a problem for sovereigns, however, as sovereigns have the power of taxation to (eventually) mitigate investor losses. As a result, sovereign CDS spreads are not as volatile as corporate and financials, mitigating industry and regulatory concerns. Of course, the sovereign could also inflate away their debt value in a purposeful currency devaluation, particularly developing countries. While such action would undoubtedly increase CDS volatility, it is hard not to argue that the increased CDS volatility that would arise from such expectations would not be appropriate.

At the end of the day, many feel that "...any assessment of whether CDS prices are appropriate is bound to be essentially anecdotal.... The track record is too short and the number of credit events is too low to provide a reliable basis." (Deutsche Bank, "European SOV risk in transition from systemic to specific," Dec. 9, 2009) Moreover, problems due to purportedly or even actually unreliable pricing models should not be seen as too important in the medium term. They are a natural evolutionary implication of adolescent financial market products: similar problems were observed in the early days of interest rate and currency derivatives, yet did not automatically lead to market failures or inherent instabilities.

Moreover, the absence of a generally accepted pricing model used by all market participants at the present stage of market development can be a good thing, reducing the danger that the industry and regulators coalesce around an inaccurate measure of market risk and/or value. When a single model is accepted by all market participants, all respond in the same way to signals from that model. Hence, uniform risk models can lead to herd behavior, with market participants interpreting market developments in the same way and taking similar action. Herding around inaccurate models can lead to market instability. When markets are strained, such herding can precipitate unnecessary crises, such as the 1987 stock market crash.

Indeed, in the recent crisis overreliance on value-at-risk (VaR) models led to considerable strain when it became known that those models were clearly inadequate. Approximately 60% of the survey participants in Fitch's most recent Global Credit Derivatives Survey acknowledged as either very important or critical the need to recalibrate VaR models to take account of data shortcomings and stressed market conditions, compared with 45% in the previous year. (Fitch, "Global Credit Derivatives Survey: Surprises, Challenges and the Future," August 2009) That concern, combined with the proposed regulatory changes to capture jump-to-default and migration risk within VaR models is clearly going to increase the cost of trading credit derivatives and consequently may have an impact on volumes and bid-offer spreads.

In fact, Fitch also reported that, "The biggest change in risk management issues over [2008-2009] relates to the reduced reliance on models and the increasing use of more qualitative forms of analysis to supplement models. This is indeed a welcome change and should be viewed as a positive from a risk management perspective." (Fitch, "Global Credit Derivatives Survey: Surprises, Challenges and the Future," August 2009) It would be foolish, therefore, to force a new model upon the industry before research has shown a reasonable degree of convergence in measuring CDS risk and pricing.

Interestingly, it should also be noted that, "45% of the respondents in the Fitch survey disagreed or strongly disagreed with the view that the availability of CDS had lowered loan underwriting standards with 27% being undecided." That observation supports the view that institutions use CDS primarily as a trading instrument and as a means of taking a position in the credit markets rather than as a hedging tool for their loan books. (Fitch, "Global Credit Derivatives Survey: Surprises, Challenges and the Future," August 2009)

Last, it should be noted that little of the above is relevant to CDS written on U.S. Treasury debt. The market for CDS on U.S. sovereign debt is not especially large -- $11.1 billion in gross notional and $2.2 billion in net notional amounts. The reason is simple: a U.S. Treasury default would have dire implications for world economic growth and currency values. As is true for the OTS market in general, the major dealer-banks are the market makers for U.S. CDS. U.S. dealers generally do not participate in the CDS market on U.S. Treasuries because the market realizes that buying credit protection on the U.S. from a U.S.-based bank is probably a futile endeavor for if the U.S. cannot meet its obligations, neither would the U.S.-domiciled dealers. Similar effects are being demonstrated among Greek banks, today.

Nonetheless, some U.S. CDS contracts are denominated in Euros in order to avoid the currency risk implications of a U.S. default, instilling elements of quanto risk. In the end, it just doesn't make sense to use U.S. bank-issued CDS as a hedge against a U.S. credit event. Still, some uses for such CDS could be to hedge against rising credit spreads, generally, managing a country risk limit, or betting on rising credit spreads. In all cases, however, the protection provided by the CDS is fully expected to expire worthless. (Singh 2010, forthcoming)

Regulation of CDS Markets and Relevance to Congressional Regulatory Reform

Like most OTS market, the CDS market does not lack regulation, merely government regulation. Over the development of CDS markets, regulation and standardization has been imposed by ISDA, the International Swaps and Derivatives Association. Such industry-based regulation has promoted both domestic and cross-border standardization that efficiently fosters industry development.

In 1999, the International Swaps and Derivatives Association (ISDA) first drew up standards for trading in credit default swaps that are now included in most CDS contracts. In mid-2003 a revised version of the ISDA rules came into effect, integrating earlier amendments and clarifying a number of additional points. Importantly, the 2003 rules took into account regional differences in debt restructuring used in Asia and Japan ("full restructuring"), the USA, Australia and New Zealand ("modified restructuring" or mod-R), and Europe ("modified modified restructuring" or mod mod-R). The 2003 rules are also more specific regarding guarantees and the conditions that trigger a debt repudiation or moratorium in the case of emerging market sovereign credit derivatives (e.g. EM sovereign CDS). (Deutsche Bank, "Credit derivatives: effects on the stability of financial markets," Current Issues, June 9, 2004)

The year 2009 brought significant new developments in ISDA regulation for CDS. Recent ISDA regulatory changes in the March/April 2009 Big Bang protocol included further clarification on credit events by means of a determination committee that issues binding classifications where necessary. Additionally, the March/April Big Bang provided for standardized auction settlement in case of credit event where significant cash bond market dislocations exist.

In June 2009, ISDA introduced new market conventions for many products, including standard coupons for North America and Europe (25/100/500, upfront fee, full first coupon, recovery rate for calculation is set at 40% on industrial and sovereign). In July, 2009 ISDA's "Small Bang" protocol introduced rules for auction settlements applied to a restructuring. In September 2009, ISDA standardized coupons for EEMEA (100/500) with upfront fees, provided for quarterly coupons (previously semi annual), and set a fixed recovery rate, 25% (EEMEA) for calculation. All of those changes were designed to make CDS more standardized, especially to facilitate central clearing.

Nonetheless, it can be argued that the ISDA efforts remain incomplete, although in my view necessarily so as this is an evolving market. In the context of the Greek crisis, it is known that many Greek sovereign CDS positions were taken (intentionally) outside the main 14 dealers who have to report to DTCC. Moreover, the DTCC, due to its ownership structure, is not willing to share information with European regulators due to concerns that confidentiality restrictions in different countries could lead to cross-border litigation. While some of the known transparency issues may improve via CCPs, moving the critical mass of OTC derivatives from the dealers' books to the CCPs is the primary effort, not transparency, per se. The proposed regulatory reforms do not address directly sovereign CDS. Hence, a lot of these issues will remain unaddressed for the foreseeable future.

Overall, the danger that a CDS buyer may deliberately trigger a credit event remains theoretical. There are no known cases of adverse behavior that had directly impacted debt borrowers because those borrowers are known to be struggling financially, anyway.

In summary, the CDx market in general was subject to an unprecedented number of defaults in the latter half of 2008. The consensus view of all Fitch's 2009 Global Credit Derivatives Survey participants was that "...the auction-based protocol mechanism set up by the industry functioned effectively. The participants also pointed out that the effectiveness of the mechanism was dependent on cooperation and consensus from all market players, adequate transparency, reliable supporting infrastructure and the commitment of sufficient resources from all players. While all credit events were dealt with in an orderly manner with no major disruptions, one notable feature of most settlements was that net cash settlement amounts were a fraction of the notional amounts outstanding. 94% of participants also noted that there were no major differences between the settlement processes of Europe and the U.S. Survey participants would like to see greater standardization and were supportive of the move to hardwire the auction settlement terms, centralize infrastructure facilities and standardize procedures in determining credit events." (Fitch, "Global Credit Derivatives Survey: Surprises, Challenges and the Future," August 2009)

Additional Policy Implications

While my opinion is that the sovereign CDS market is working smoothly, some elements could still use reform in seeking standardization and maturity. For instance, starting April 8, 2009, with the Big Bang ISDA protocol both CDX and individual CDS will not include restructuring (for U.S. issuers). CDS on European issuers like Greece still include the restructuring clause. That means the CDS prices in different countries still mean different things, which will hinder coordinated industry development of pricing models and applications.

Moreover, while CDS price dynamics will appear to be unusual for some time to come, that is to be fully expected given the nature of the contracts. Financial markets are deleveraging and that deleveraging will be reflected in sovereign and other CDS markets. As the private

sector shrinks and de-risks its balance sheet, sovereign entities are taking the other side of the trade to avoid a depression, necessarily weakening their fiscal conditions in doing so.

Negative basis – where CDS trade at levels *below* the cash value of the corresponding credit risk – is the price paid to rotate credit from levered investors (such as hedge funds, private equity) to real money investors (insurers, pension funds, institutional investors etc). The only way to do that is to sell assets from the "levered" part of the global financial system to the "unlevered" part (i.e. to cash investors). The negative basis that existed in the U.S. until late January 2009 therefore suggested pressures to reduce leverage exceeded the demand for cash bonds.

Bank balance sheets (already weakened by sub-prime losses) could not fund additional cash bond inventory, including even AAA rated bonds. The highly levered "shadow" banking system was no better off, their collective capital base being insufficient to cope with the losses stemming from the steepest fall in asset prices. Thus, leverage had to come down (especially by hedge funds), but it had nowhere to go. As a result, a market premium (lower price) developed for cash bonds relative to higher priced CDS, the negative basis. Such sizable dislocations (negative basis) during distress is unusual. Again, however, the CDS is just reflecting market dynamics, not dictating those dynamics.

In sum, therefore, I am not convinced sovereign CDS deserves its current negative press, and fear that a ban or restriction on trading could easily backfire. Bans on trading activity tend largely to reduce liquidity, forcing a reversion to a world where sudden and unhedgeable price jumps occur when information about underlying fundamentals is occasionally priced into an illiquid market – that is, when someone finally trades. Sovereign CDS provides an efficient way to trade – and to hedge – credit exposures to governments, as well as a more continuous way for governments to "poll" their fiscal decisions more continuously in the marketplace. If governments do not like that transparency, it seems they doth protest too much.

Testimony of Robert Pickel
Executive Vice Chairman
International Swaps and Derivatives Association Inc.
Before the
House Financial Services Subcommittee on Capital Markets, Insurance and the GSEs
U.S. House of Representatives
April 29, 2010

Chairman Kanjorski, Ranking Member Garrett and Members of the Committee:

Thank you for the opportunity to testify today regarding credit default swaps ("CDS") and government debt. The International Swaps and Derivatives Association, or ISDA, was chartered in 1985 and has over 820 member institutions from 56 countries on six continents. Our members include most of the world's major institutions that deal in privately negotiated derivatives, as well as many of the businesses, governmental entities and other end users that rely on over-the-counter derivatives to manage efficiently the financial market risks inherent in their core economic activities.

Introduction

Since its inception, ISDA has pioneered efforts to identify and reduce the sources of risk in the derivatives and risk management business through documentation that is the recognized standard throughout the global market, legal opinions that facilitate enforceability of agreements, the development of sound risk management practices, and advancing the understanding and treatment of derivatives and risk management from public policy and regulatory capital perspectives. Among other types of documentation, ISDA produces definitions related to CDS.

The Role of CDS

CDS provide a simple device for banks and other lenders to hedge the risks associated with lending to a particular company, industry or other counterparty, including government entities. A CDS is a derivative contract based on one or more assets (e.g., a corporate loan or bond), in which the protection buyer pays a fee, typically on a quarterly basis, through the life of the contract in return for a payment by the protection seller upon the occurrence of a pre-specified credit event relating to a company (e.g., bankruptcy). If no pre-specified event occurs during the life of the transaction, the seller will retain the quarterly payments as compensation for assuming the risk.

Although not nearly as widespread as CDS related to corporate exposures, many institutions also use CDS to hedge the risks associated with lending to a sovereign nation or other governmental entity. Sovereign CDS are similar to corporate CDS, but they are based on government-issued debt and subject to a different set of credit event triggers, such as the government's moratorium on payment of its debt. A significant portion of corporate CDS trading is based on indices, while sovereign indices have only recently been developed.

In addition to providing basic credit risk protection, sovereign CDS have become more widely used in recent years because they can provide significant value to hedgers of country-specific risk and can increase liquidity in the underlying debt. They also have often been the best way to express a view on credit in troubled times when cash and securities markets have seized up. When credit is perceived to be overpriced, market participants may look to buy protection. Conversely, when credit is perceived to be underpriced, market participants may look to sell protection.

Risk Mitigation

Generally speaking, CDS, whether related to corporate or sovereign debt, help to mitigate credit risk for investors and lenders. Unlike corporate CDS, however, sovereign CDS can also provide effective hedges against the broader economic risk related to a particular country. As the International Monetary Fund ("IMF") noted recently, "Sovereign CDS is not only 'credit insurance,' but another tradable instrument in the risk management tool kit."[1] As a result, investors may use sovereign CDS for a variety of risk management purposes. For example:

- *International banks* that extend credit to corporations and banks located in a particular country may use sovereign CDS to hedge credit or counterparty exposures or to provide country-level risk diversification.
- *Investors* in the debt or equity of companies in a specific country may use sovereign CDS as a "proxy hedge" against potential systemic shocks that would reduce the value of their positions. It is our understanding that earlier this year proxy hedgers were significant buyers of Greek sovereign CDS because individual Greek bank CDS were much less liquid.
- *Investors* with large real estate or other corporate holdings in a country may similarly use sovereign CDS.
- *Portfolio managers* may use sovereign CDS to hedge against country, liquidity and market risk related to a portfolio comprising debt or equity positions and to better diversify their portfolios.
- *Large banks*, which typically do not require highly-rated sovereign entities to post collateral for swap arrangements may use sovereign CDS to hedge against the risk posed by these uncollateralized exposures.
- *Banking supervisors and Central Banks* use the price signals provided by the CDS market to assess default risks in the financial system.

[1] Global Financial Stability Report: Meeting New Challenges to Stability and Building a Safer System, International Monetary Fund, April 2010. p. 51

Liquidity

Ultimately, CDS increase liquidity in the banking industry because they enable banks to manage the credit risk inherent in lending. Because CDS limit the bank's downside risk by passing it on to parties that seek such exposure, banks are able to lend more money to many more entities. CDS thus significantly expand borrowers' access to capital from bank lending, and reduce the cost of that borrowing.

Market Transparency

CDS also serve a valuable signaling function. CDS prices produce better and more timely information about the entities for which a CDS market develops because CDS prices, unlike the credit ratings published by rating agencies, are more sensitive to market-based information about an entity's financial health. CDS prices reveal changes in credit conditions and can provide insight to bankers, policymakers, investors and others about credit in real time, making it easier to manage and supervise traditional banking activities. The trend toward basing term loan pricing on CDS spreads as opposed to credit ratings illustrates the increasing value lenders place on CDS pricing information. While this signaling function provides additional useful information regarding an entity's financial health, it is important to note that sovereign CDS spreads closely track government bond spreads, whether by reference to LIBOR or to other sovereigns.

Market participants and the general public have ready access to publically available data to evaluate the CDS market. The financial press provides extensive information regarding CDS activity and the amount of outstanding CDS and weekly transaction activity for the 1,000 largest names (including sovereign CDS) are publicly available through the website of the Depository Trust Clearing Corporation's ("DTCC's")

Trade Information Warehouse.[2] Separately, policymakers have access to data on a transactional level to enable them to monitor and evaluate market activity.

Size of the Sovereign CDS Market

The sovereign CDS market is much smaller than the government bond market. Gross sovereign default protection equals $2 trillion in notional value, or 6 percent of the overall global government bond market of $36 trillion. Actual net sovereign CDS notional amounts[3] are much smaller, $196 billion or 0.5 percent of government debt.[4] Similarly, the sovereign CDS market is much smaller than the corporate CDS market, which includes many index trades. Among single name trades, sovereigns are approximately 15 percent of trades on a gross basis and less than 20 percent on a net basis.

Although these numbers appear on their face to be extremely large, it is important to note that "notional" amounts are not truly reflective of the risks posed by this type of financial instrument. For example, the notional amount of a derivative contract refers to an underlying quantity upon which payment obligations are calculated. Notional amounts are an approximate measure of derivatives activity and reflect the size of the field of existing transactions. For CDS, this represents the face value of bonds and loans on which participants have written protection; the exposure under a CDS contract is in fact a fraction of the notional amount. For example, according to the DTCC when Lehman Bros. failed

[2] See, www.dtcc.com/products/derivserv/data/index.php.
[3] Net notional is the aggregate net position (protection bought less protection sold) of each market participant and, in effect, reflects the open interest in the CDS of a particular company, country or index. It is not a measure of the amount at risk, which would typically be a fraction of the net notional, but it does give an indication of the magnitude of net protection bought on a company, country or index. Net notional positions generally represent the maximum possible net funds transfers between net sellers of protection and net buyers of protection that could be required upon the occurrence of a credit event relating to particular reference entities. (Actual net funds transfers are dependent on the recovery rate for the underlying bonds or other debt instruments.)
[4] Global Financial Stability Report: Meeting New Challenges to Stability and Building a Safer System, International Monetary Fund, April 2010. pp. 49-50

the "notional" amount of CDS which referenced Lehman was roughly $72 billion dollars. The actual money that exchanged hands, however, was 7 percent of that total, or a little over $5 billion.

The one recent experience of a sovereign credit event was when Ecuador defaulted on its debt in December 2008. An auction to value Ecuador debt was held, and CDS related to Ecuador settled uneventfully.

As the above example illustrates, the transfer of payments under CDS contracts is nowhere near the magnitude often popularly portrayed. In addition, market data clearly shows that open CDS positions are a small fraction of total turnover and, in practice, of an issuer's outstanding bonds and loans. For example, the net notional amount of CDS on Greek debt is less than 2 percent of the principal amount of outstanding Greek debt. This reflects the overall role of derivatives generally, to adjust risk positions at the margin. At the same time, for large investors, the mere *availability* of CDS gives them more confidence to take on bond positions, since they can use CDS in the future to hedge against emerging or unforeseen risk.

Oversight of the CDS Market

For years, ISDA has worked with policymakers, financial regulators, legislators, and governments around the world to establish a sound policy framework for swaps activities. In March 2010, ISDA jointly submitted a letter with a number of market participants and industry groups to global financial supervisors. The letter was the sixth in a series that publicly details how the industry will work to further strengthen the robustness of the derivatives market infrastructure, improve transparency and build a more resilient risk management framework. I have included a copy of the letter as an attachment to my written testimony.

As a result of these and other industry efforts, currently 93 percent of the clearable CDS market is cleared through a central clearinghouse, which benefits the market by reducing the systemic risk associated with counterparty credit exposures and providing enhanced liquidity and price discovery by means of standardization and centralized trading.

In addition, as noted above, market participants, along with the DTCC, publish aggregate market data consisting of outstanding gross and net notional values of CDS contracts registered in the DTCC's Trade Information Warehouse for the top 1,000 underlying single-name reference entities and all indices, as well as certain aggregates of this data on a gross notional basis only. The financial press also provides valuable CDS market data on a regular basis.

CDS and Market Manipulation

Over the past several months, the use of sovereign CDS has received scrutiny as some have suggested trading in sovereign CDS could be responsible for putting pressure on government bond markets. The data suggest otherwise.

First, the majority of sovereign CDS investors likely are hedging legitimate economic risks, not speculating, even if they do not own the actual asset referenced in the CDS. With CDS, those who have credit risk can buy protection and transfer the risk to the ultimate sellers of protection, who wish to assume that risk.

Second, the size of the sovereign CDS market remains relatively small compared with the overall government debt market, making it unlikely that CDS trading volumes can have a significant effect on a

country's overall debt spreads. The chart below illustrates that, even among countries under economic pressure, the ratio of CDS to government debt remains low.

Ratio of Net CDS to Gross External Debt (General Government)
Amounts in billions (as of September 2009).

Sovereign	Net CDS	Gov't Debt	CDS/Debt (%)
Germany	$12	$1,601	0.7
Greece	$8.3	$426.8	1.9
Italy	$22.4	$2,295.8	1.0
Portugal	$7.7	$226.3	3.4
Spain	$13.1	$848.1	1.5
U.K.	$3.4	$1,108	0.3

Sources: DTCC and the Bank for International Settlements

Third, sovereign CDS may actually serve to moderate downward pressure on troubled countries, as, absent a liquid sovereign CDS market, hedgers of risks attributable to a government bond or other assets related to the country would instead move to short or sell any bonds or other country-related assets, putting additional and more substantial pressure on the country and its economy. Lenders and investors would also likely charge higher risk premiums for corporations and banks located in the country, raising the cost of borrowing for these entities.

Finally, bond and CDS markets are not completely correlated and, in reality, neither may provide a particularly good estimate of the long term probability that the underlying bond issuer will default. Bond spreads are driven in part by liquidity risk (i.e., how hard the bond is to sell), funding risk (i.e. the availability and cost of secured funding for the bond) and the volatility of the bond spread itself. In contrast, CDS spreads include compensation for the liquidity of CDS, and for the volatility of the CDS spread. Both markets are driven by the balance of buyers and sellers, many of whom may not have a

fundamental view of the likelihood of default. Thus while both the CDS and bond markets allow participants to meet economically useful risk taking and risk management objectives, spread movements should not be seen as driven by changes in the perception of the probability of default alone.

It is also important to note that the economic effect of buying a CDS can be achieved by selling underlying bonds short, doing a "reverse repo" on the bond and entering into an interest rate swap to mitigate interest rate risk on the bond.[5] CDS have proved to be a more efficient and cost effective way to achieve the same effect.

[5] At the end of the first quarter of 2010, outstanding reverse repos on U.S. debt (government and corporate) totaled $1.857 trillion.

Testimony of Dr. Anthony B. Sanders
Before the House of Representatives Subcommittee on Capital Markets, Insurance, and Government Sponsored Enterprises
Topic: "Credit Default Swaps on Government Debt: Potential Implications of the Greek Debt Crisis"

April 29, 2010

Mr. Chairman, and distinguished members of the Committee, my name is Dr. Anthony B. Sanders and I am the Distinguished Professor of Finance at George Mason University and a Senior Scholar at The Mercatus Center. It is an honor to testify before the House of Representatives Committee on Financial Services today.

The Greek Debt Crisis

On November 5, 2009, Reuters published a story entitled "Greek debt to reach 120.8% of GDP in '10."[1] Everyone around the globe is aware of how Greece's excessive debt fiasco could lead to a meltdown of the European economy at "only" 120% of GDP.[2] Things became even more critical when Greece discovered it had overlooked $40 billion more – markets do not like surprises.

These stories about the Greek economy beg the following question: Was the cause of the Greek fiscal collapse perpetrated by credit default swaps (CDS) or was it the out of control spending and borrowing by the Greek government that led to Greece being, in popular parlance, "broke?"

[1] http://www.reuters.com/article/idUSATH00496420091105

[2] On April 27, 2010, it was revealed that S&P has cut the ratings for both Greece and Portugal. Spain is also is deep trouble. http://www.marketwatch.com/story/us-stocks-tumble-after-sp-cuts-greece-portugal-djia-off-128-2010-04-27

Credit Default Swaps (CDS)

The most common type of credit derivative is the credit default swap (CDS). A CDS is simply an exchange of a fee in exchange for a payment if a "credit default event" occurs. With a CDS, the Investor does not take price risk of the Reference Asset (such as Greek government debt), only the risk of default. The Investor receives a fee from the Seller of the default risk. The Investor makes no payment unless a credit default event occurs.[3] CDS are traded in basis points (100 basis points equal 1% in interest rates). As the risk of default increases, the credit rating will decrease which raises the price for protection and widening the basis point spread at which a CDS is trading.

Credit default swaps (CDS) play two important roles in the market for credit. First, they facilitate liquidity by allowing investors to hedge against negative outcomes (e.g., defaults) and second, CDS provide vital information to other market participants about the risk of a particular investment. This price (or spread) conveys information to potential investors, communicating the level of risk involved in an investment, and helping them to make a more informed and prudent investment decision. Restricting either of these roles risks making credit less widely available and markets less transparent.

Credit default swaps (CDS) are the current "villain de jour" in the Greek debt fiasco. The Greek crisis is the result of massive government spending and debt issuance to fund the

[3] See, for example, http://www.tavakolistructuredfinance.com/CDS.pdf

spending. In fact, CDS on Greek sovereign debt actually served a positive role: it alerted everyone around the globe that Greece was in a credit death spiral.[4]

CDS is often misunderstood. Essentially, CDS allows investors to hedge their positions in debt (in this case, default of Greece's sovereign debt). An investor may hold Greek sovereign debt (long) and may want to fully or partially insure against default on the debt.[5]

By limiting or abolishing CDS, you not only decrease liquidity for investors (which we know is a terrible idea), but you actually decrease liquidity in the underlying asset, in this case Greek sovereign debt.[6] To state it differently, how many investors are willing to go long on Greek debt if they were forbidden or curtailed from purchasing protection on the downside?

As can be seen in Exhibit 1, the CDS spreads started to increase in October and November, 2009. By December 2009, CDS spreads widened dramatically. Of course, the spreads widen even more in January and February signaling the seriousness of the Greek credit crisis. As Peter Wallison has pointed out, "A widening of a reference entity's CD spread will alert investors that they should investigate risk-taking more fully before advancing funds."[7] So, CDS

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[4] It is not necessarily the sudden inability to make payments on outstanding debt that causes default, but the inability to fund maturing debt with new debt. The issue instead is whether new debt can be sold at all and at what interest rate on the rollover date which could send interest costs upwards.

[5] As a rule, fixed income investors are not speculators. What they are trained to do is evaluate risk, demand a risk-based return and a return of principal. What they have difficulty doing is evaluating unknowns, such as what will Greece likely look like over the entire length of the holding period. The greater the degree of uncertainty, the greater the return they will demand. Rather than demanding that Greece pay higher interest rates, those who were most concerned can purchase insurance against this uncertainty with CDS just like anyone else who buys insurance is limiting their risk. Since the alternative was higher interest rates, CDS actually saved Greece money over the years.

[6] Rene Stulz has argued that eliminating over-the-counter trading of credit default swaps could reduce social welfare and were not responsible for the recent financial meltdown in the US. See http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1475323

[7] Peter Wallison, "Everything You Wanted to Know about Credit Default Swaps—but Were Never Told," American Enterprise Institute, December 2008.

actually serve a public purpose by providing credible information about evolving risk in sovereign debt markets.

Consider further "The Greek Surprise!" when on April 2, 2010, a story in the press revealed that "Greece "Discovers" $40 Billion of Previously Unknown Debt, CDS Widens." For a country that is already in deep trouble in terms of making its debt payments, the discovery of another $40 billion of debt came as a rude surprise to those that invested in Greek debt. Notice in Exhibit 1 how Greek CDS spiked around the time of the revelation of $40 billion in undiscovered debt. Markets reacted swiftly to the news, which indicates 1) the value of having CDS as a credit monitoring device and 2) the importance of fully disclosing the debt that a country is obligated to pay.

There have been recommendations that CDS be abolished, regulated or controlled. Regulation should set good standards against fraud and deceptive behavior, but should avoid tinkering with particulars because, as Ian Malcolm said in Jurassic Park, "Life will find a way." The same thing is true for risk management and investing. Financial markets evolve independently and are often hindered rather than helped by regulation. Alan Greenspan has stated in U.S. Senate testimony that "The market will continue to force change whether or not Congress Act. .... Without Congressional action changes will occur through exploitation of loopholes and marginal interpretations of the law that the courts fee obliged to sanction. The type of response to market forces leads to inefficiencies ..."[8] As we know, it would be fairly easy

[8] Statement by Alan Greenspan, Chairman Board of Governors of the Federal Reserve System before the Committee on Banking, Housing and Urban Affairs, U.S. Senate, June 17, 1998, in reference to H.R. 10, Financial Modernization, page 1.

to create a new security or instrument that would be one or steps ahead of the regulators, but provide the hedging that investors demand.

Focusing on the instrument as the cause of a problem, in this case CDS, misses the real culprit: the behavior of the underlying asset. With Greece, CDS reacted to the behavior of the underlying asset - Greek sovereign debt. Just as in the housing crisis, CDS have been blamed for exacerbating the crisis but really it was the behavior or the underlying asset – mortgages – that was at issue. If you're looking to place blame, don't blame the instrument; blame the behavior of the underlying asset. Greece hid its debt. Markets found out and reacted appropriately. This is a lesson that we would do well to learn in the U.S.

Fannie Mae, LBJ and Hiding the Debt from the Public

Our own sovereign debt has a "Greek surprise" component to it. It's called the GSE and Agency debt.[9] As Secretary Geithner tried to emphasize in a recent House hearing, the Federal government's support to Fannie and Freddie, "does not change the legal status." In addition, he stated that "The corporate debt of the GSEs is not the same as U.S. Treasuries, nor should it be considered sovereign debt."[10]

Secretary Geithner went on to say that he wanted to eliminate the "ambiguity" over the government's involvement in mortgage finance companies Fannie Mae and Freddie Mac. I agree completely with Secretary Geithner on this score. But to end the ambiguity, it is

[9] There are other off-balance sheet liabilities as well in the Federal government such as the Pension Benefit Guaranty Corporation that only appears on the Federal budget when there is a loss.
[10] March 23, 2010 hearing of the U.S. House Financial Services Committee.

important to revisit why Fannie and Freddie are not considered to be sovereign debt by Secretary Geithner.[11]

In 1968, President Lyndon Johnson had difficulty fighting a war, delivering his Great Society programs and financing mortgages on the government's balance sheet. So, it was decided that Fannie Mae would move off budget, reducing federal borrowing rather than making the tough budgetary decisions. In part, it was a reaction to the attempt to raise the Federal debt limit and the stiff resistance that faced the Administration. If removing Fannie Mae from the Federal balance sheet was intended to create "shadow debt" that had no Federal guarantee, it makes sense that moving it back on balance sheet actually recognizes what most have guessed at over the years: the Federal government will support Fannie and Freddie in times of distress.

While it may have been a clever budgetary trick or debt ceiling avoidance tactic in 1968, it blew into a serious problem by September 7, 2008 when the Bush Administration placed Fannie and Freddie into conservatorship. On Christmas Eve 2009, the credit markets were taken by surprise by an announcement from Treasury that the $200 billion caps on Fannie and Freddie for capital infusions were lifted and the Federal government would cover all losses at Fannie and Freddie.

In short, if it looks like a guarantee, sounds like a guarantee and acts like a guarantee, it is a guarantee. And the Federal government needs to end the ambiguity and put Fannie and Freddie back on the Federal balance sheet where they belong.

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[11] In fairness to Fannie and Freddie, much of their debt and guarantee are backed by cash flows, so only a percentage of their $8 trillion in debt and guarantees will have to be covered by taxpayers. However, GSE debt and guarantees are de-facto liabilities for the American taxpayer and should be considered as such. In addition, there are other Among the other costly programs such as Pension Benefit Guaranty Corporation, federal employee pensions, and Federal Home Loan Bank debt.

To highlight why this is important, I have prepared Exhibits 2 and 3 that illustrate the situation. In Exhibit 2, it is clearly shown that on-balance Federal Debt is above $8 trillion. The problem is our off-balance sheet GSE debt and guarantees are also around $8 trillion. So, President Johnson's budgetary trick has resulted in a shadow debt that is comparable to our on-balance sheet debt.

Further Budgetary Complications

Veronique de Rugy at George Mason University and The Mercatus Center has pointed out that through 2040, spending on Medicare and Medicaid is projected to grow to 11% of GDP from its current 5%. In terms of interest costs to maintain our debt, interest costs are projected to increase by more than 7 times by 2040 to 9.3% of GDP which is a far larger share of our GDP than is currently dedicated to any single department, war or program.[12] Unfunded liabilities (those for which we need to raise taxes or borrow to fund) currently amount to $108.4 trillion - that figure is almost 7 times higher than our current Federal debt (with GSEs and Agencies added in). These unfunded liabilities amount to $351,000 per citizen.[13] This further raises the flag that we need, as a country, to acknowledge what we owe today so we can better manage our finances in the future.

Thank you for allowing me to share my thoughts with you today.

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[12] http://mercatus.org/publication/net-interest-rivals-general-spending-2040

[13] As of 2009, households earning $250,000 or more accounted for approximately 2% of all households. If we multiply the number of households (115,000,000) by 2%, we find that 2,300,000 households will bear the brunt of the $108 trillion of underfunded liabilities. This means that households earning $250,000 or more are each responsible for $47 million to pay for these unfunded liabilities.

Exhibit 1. Greece CDS Rates

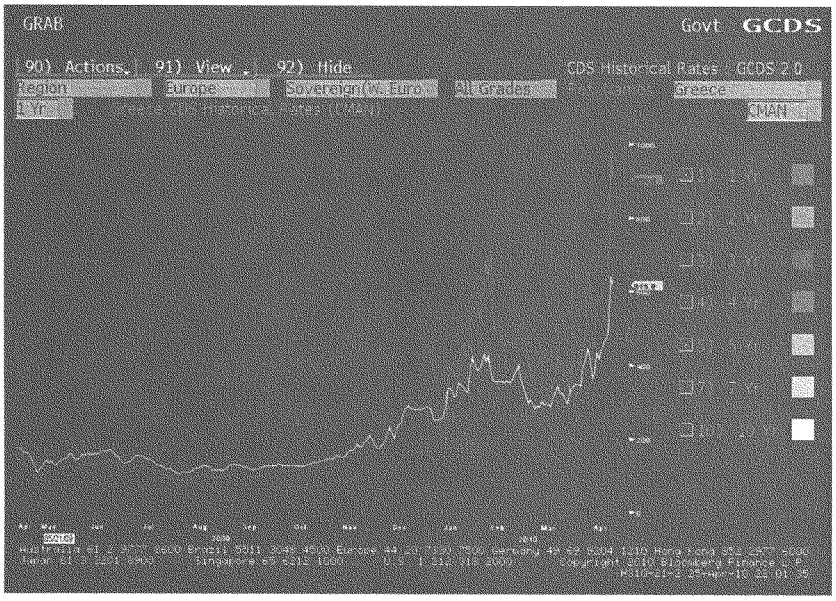


Figure 2.

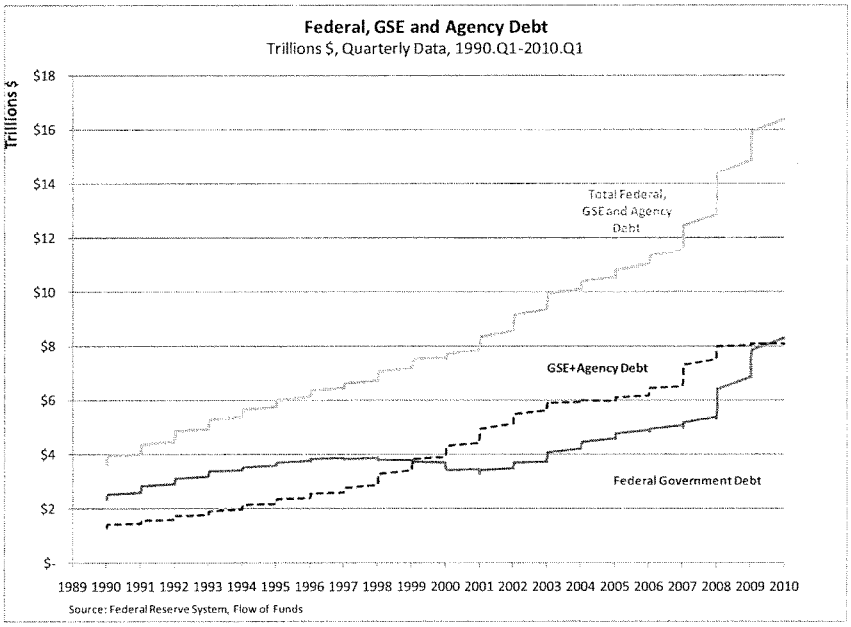
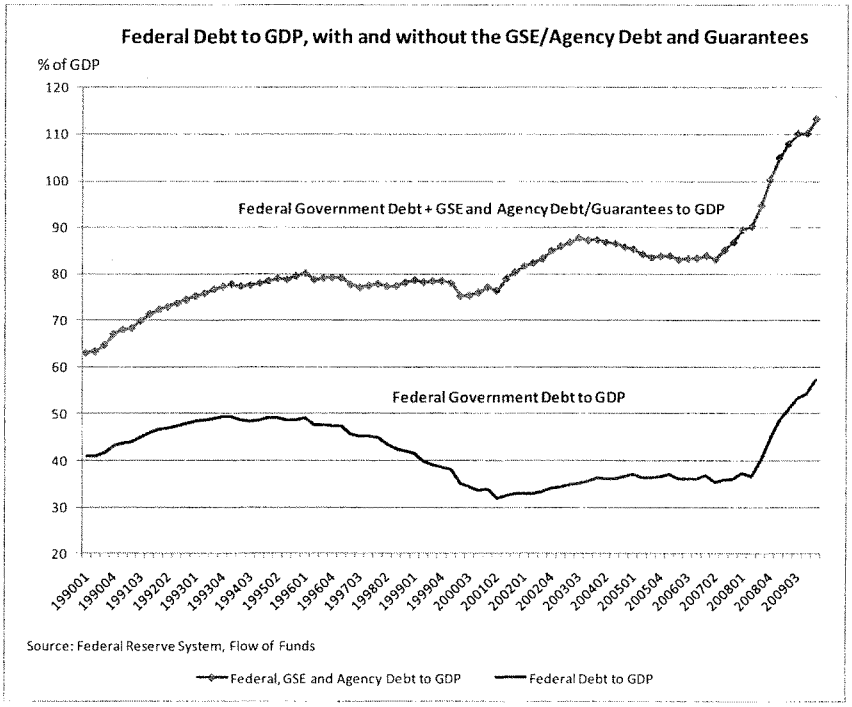

Federal, GSE and Agency Debt
Trillions $, Quarterly Data, 1990.Q1-2010.Q1
Trillions $
$18
$16
$14
$12
$10
$8
$6
$4
$2
$-
Total Federal, GSE and Agency Debt
GSE+Agency Debt
Federal Government Debt
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010
Source: Federal Reserve System, Flow of Funds

Figure 3.


Federal Debt to GDP, with and without the GSE/Agency Debt and Guarantees
% of GDP
120
110
100
90
80
70
60
50
40
30
20
Federal Government Debt + GSE and Agency Debt/Guarantees to GDP
Federal Government Debt to GDP
199001
199004
199103
199202
199301
199304
199403
199502
199601
199604
199703
199802
199901
199904
200003
200102
200201
200204
200303
200402
200501
200504
200603
200702
200801
200804
200903
Source: Federal Reserve System, Flow of Funds
Federal, GSE and Agency Debt to GDP
Federal Debt to GDP

Biography

Anthony B. Sanders is Professor of Finance in the School of Management at George Mason University where he is the Distinguished Professor of Real Estate Finance. He is a Senior Scholar with The Mercatus Center. He has previously taught at University of Chicago (Graduate School of Business), University of Texas at Austin (McCombs School of Business) and The Ohio State University (Fisher College of Business). In addition, he served as Director and Head of Asset-backed and Mortgage-backed Securities Research at Deutsche Bank in New York City. He is the coauthor of "Securitization: Structuring and Investment Analysis" (Wiley Finance) with Andrew Davidson.

His research and teaching focuses on financial institutions and capital markets with particular emphasis on real estate finance and investment. He has published articles in *Journal of Finance*, *Journal of Financial and Quantitative Analysis*, *Journal of Business*, *Journal of Financial Services Research*, *Journal of Housing Economics* and other journals. He has given presentations to the European Central Bank in Frankfurt, Exane BNP Paribas in Paris and Geneva and the Bank of Japan. He has given presentations in Chile, Japan, China, Poland, United Kingdom and Mexico in recent years as well.

http://mason.gmu.edu/~asander7/

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